AMERICAN GAS ASSOCIATION MONTHLY

Nominating Committee Reports for 1929-30

The Three-to-Five Year Program of the A. G. A.—To Date

By GEORGE B. CORTELYOU

What the Public Expects

By H. C. BLACKWELL

Experience with Lubrication of Mains at Grand Rapids

By H. D. STRAIGHT, G. E. LUDWIG, W. L. SHIVELY

Give a Thought to Advertising

By JAY C. BARNES

Gas Sales Increase at Record Rate in First Four Months of '29

Plan for Biggest A. G. A. Convention

What Is This Thing Called Advertising?

By HENRY OBERMEYER

July, 1929

Volume XI
Number 7

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Front cover of new and revised edition of Hints for the Housewife.

The NEW and REVISED
Hints for the Housewife

The new and completely revised "Hints for the Housewife" is now available. The old booklet, which was issued by the A. G. A. several years ago, was used by hundreds of gas companies.

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AMERICAN GAS ASSOCIATION

420 Lexington Ave. **New York, N. Y.**

AMERICAN GAS ASSOCIATION MONTHLY

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Volume XI JULY, 1929 Number 7

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October
14-18
Atlantic City,
N. J.

The Time and Place of the A. G. A. CONVENTION

Plan Now to Be There Then

The Association does not hold itself responsible for statements and opinions contained in papers and discussions appearing herein.

Published Monthly by the
AMERICAN GAS ASSOCIATION
420 Lexington Avenue,
New York, N. Y.

Entered as Second Class Matter at the Post Office at Brattleboro, Vermont, February 10th, 1922, under the Act of March 3, 1879.

Subscription Rate $3.00 a Year

Our Own Who's Who

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THOMAS JOHNSON STRICKLER

BORN May 21, 1883, Topeka, Kansas. Graduated Wentworth Military Academy, 1900; post graduate, 1901; Kansas University, School of Engineering, B.S. in C.E., 1906; admitted to Bar, State of Kansas, 1917.

After graduation, junior engineer and assistant engineer, U. S. Reclamation Service; later was in charge of construction of Dodson Dam and structures of Dodson Canal; 1911-13, assistant engineer of Kansas Public Service Commission; 1913-20, chief engineer of Commission; 1917-20, member Kansas Water Commission.

In 1920 became consulting engineer, Empire Gas & Fuel Co., Bartlesville, Okla., in charge of rates and valuations, gas division. In 1922 became consulting engineer, Henry L. Doherty & Co., located in New York and Kansas City; in 1925 was made consulting engineer, Gas Service Co., Kansas City, in charge rates, valuations, and public relations. Is vice-president or director of some 30 natural gas distribution properties in the Mid-continent field. In 1927 became vice-president and general manager, Kansas City Gas Co., which position he now holds.

From 1917 to 1919 was Captain of Engineers, Major, Railway Transportation Corps (Service in France, Jan. 1918 to June 1919).

Is President of the Missouri Association of Public Utilities; Past President, Kansas Engineering Society. Since his residence in Kansas City, he has been very active in civic life, serving as general chairman, Kansas City Charities Fund 1928 and 1929; President, Kansas City Safety Council. Is active in A. G. A. affairs, and was chairman of arrangements and entertainment committee for 1929, Natural Gas Dept. meeting.

AMERICAN GAS ASSOCIATION MONTHLY

VOLUME XI JULY, 1929 NUMBER 7

The Three-to-Five Year Program of the A. G. A.—to Date

By GEORGE B. CORTELYOU

AS Chairman of the Special Committee on Three-Five Year Program, whose report and recommendations were unanimously approved by the Advisory Council and adopted by the Executive Board in May, 1926, it has seemed appropriate that I should summarize at this time the several recommendations made by the committee and the extent to which they have been carried out to date, especially as the three-year part of the period covered by the Program has now expired.

Just as the gas industry progresses, so does the American Gas Association. It should not be necessary to urge careful reading of Mr. Cortelyou's remarks

We may well pause for a moment to take stock, as it were, of our situation with reference to the Program laid out three years ago and see where we stand in the matter of actual accomplishment. It will give a picture of the industry's progress as reflected by the Association's activities.

I am greatly indebted to President Fogg and Major Forward for a compilation of facts and figures from the record, of which I shall make liberal use in this statement.

Taking up, then, the specific recommendations of the report in their order:

1. "That intensive efforts be made to secure cooperation within the gas industry and with all practicable enterprises and activities outside of the industry, to improve selling methods, to stimulate selling efforts, to enlarge understanding and appreciation of gas service, with special emphasis upon conservation and expansion of the domestic load, upon water heating and house heating as additions to the domestic load, and upon large-volume use of gas in commercial and industrial enterprises."

In line with this, the premier recommendation of the report, definite programs for the stimulation of selling efforts and cooperation with other agencies were planned and are in continuous operation by the Commercial and Industrial Gas sections of the Association.

During the present year there are active committees on dealer cooperation, on salesmen's training, on salesmen's compensation, and on merchandising accounting. Since the adoption of the Three-Five Year Program, committees have been organized on domestic cooking, on domestic laundry

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Mr. Cortelyou, President of the Consolidated Gas Co. of New York, and chairman of the A. G. A. Committee on Three-to-Five Year Program, presented this report at the spring conference of the Executive Board and Advisory Council, at Atlantic City, N. J., May 31.

equipment, and on large-volume water heating, the last being undertaken jointly with the Industrial Gas Section, with appropriate sub-committees. Among the committees already in existence at that time and now continuing their work are Architects and Builders Service, Home Service, House Heating, Incineration, Refrigeration, and Window Display.

With the approval of the Executive Board, which authorized an underwriting of the cost, the Commercial Section inaugurated and now has in full operation a course in training domestic gas salesmen. Three hundred companies are subscribers to this important undertaking and nearly 3000 enrollments, sales executives and salesmen, are studying how to do their jobs more satisfactorily.

Regional sales conferences are now held annually in New York, New England, the Middle West, and the South. One has been held on the Pacific Coast. The first Natural Gas Regional Sales Conference is planned for December, 1929. In these meetings there is discussed every known successful method of selling every variety of domestic appliance.

The Committee on Trade and Dealer Cooperation reviews company policies and results. It has prepared a statement of principles to develop greater dealer sales which, as approved by the A. G. A. Executive Board, is now pending with the official groups representing dry goods, furniture, hardware, master plumbers, heating and piping contractors, and others. Cooperative agreements with these and other trade groups are now under consideration. A representative of the Master Plumbers Association took part informally in the last meeting of our Commercial Section in Atlantic City.

There has been a notable advance in our cooperative work with architects. The Association has sold to gas companies and manufacturer companies 10,000 copies of the architects file folders with prize house plans giving data on installation of gas in the home. The Association is a member of the Producers' Council of the manufacturers section of the American Institute of Architects, and we have their cooperation in reviewing and criticizing all gas industry material for use with architects.

The Association constantly assists in the construction and demonstration of fully gas-equipped homes throughout the country. A field representative from headquarters is always on the firing line, holding meetings with gas company representatives, manufacturers, dealers, and plumbers, telling the story of cooperative sales efforts. Since January 1, 1928, 3000 Blue Star homes have been built and 36 of them have been demonstrated in as many cities and visited by 2,000,000 people. All of them are equipped with Testing Laboratory approved domestic appliances.

The Industrial Gas Section is equally active. The Committee on Sales Methods gives continuous study to practices of gas companies in an effort to standardize procedure so far as possible for recommendation to the industry. This includes the organization of industrial departments, compensation of salesmen, contact with and cooperation from manufacturers and others.

Of very great value to the industry is the issuance of industrial data sheets which include data of installation and operation of about 200 installations. Additions are made from time to time. About 1500 sets have so far been made available.

The Industrial Gas Section Committee on Education of Industrial Salesmen cooperates with such courses as those at Massachusetts Institute of Technology and at the University of Illinois. For some years the committee has sponsored a course in education of industrial gas salesmen in New York. The attendance is not such as to indicate that this course is of sufficient value to warrant its continuance, and the subject of its discontinuance or modification is now under consideration.

Headquarters has published industrial booklets on Combustion, House Heating, Food Products, Gas-Fired Steam Boilers, and Bakeries, Hotels and Restaurants. Revisions of the books on Combustion and on House Heating are now under way and the next

new book will be on Large Volume Water Heating.

Advertising industrial gas is dealt with in its proper place in this review. A publicity writer at headquarters visits industrial installations, secures facts and pictures, and many stories based thereon are published in trade journals.

The Survey Committee has assisted many gas companies in making surveys of their potential markets.

A special committee of the Industrial Gas Section has contacts with regional conferences, including those of New England, New York Metropolitan District, and the Middle West. Another committee works with consulting engineers and builders of equipment using heat, with reference to factory layouts.

2. "That an educational campaign be carried on, both in and out of the industry, having in view the application of proper rate structure and proper bases for valuation in adequate rate-making."

The Committee on Rate Structure continues its invaluable work in studies of costs and in the making of rates. Association headquarters prepared and has distributed the manual on "Better Forms of Rates for Gas," and has widely distributed the Rate Structure Committee's pamphlet, "Principles of Rate Making for Gas Companies." Service letters containing decisions of commissions and courts for the information of the industry go also to special lists of attorneys and rate consultants. Many articles on rate making have been published in the Association's papers and elsewhere.

3. "That technical research in all fields affecting the gas industry be intensively prosecuted."

Through our work in industrial gas research, financed by a group of larger gas companies, we have developed large capacity traveling bake ovens which have been accepted by the largest manufacturers and bakers and have definitely established the supremacy of gas as a baking fuel. Through this research we have developed a rotary brass melter now on the market which puts us well in the lead in this field. Special studies are proceeding in other lines and it seems evident that this important undertaking will pay liberally in actual financial returns to the entire industry.

Our research in mixed gases in the Cleveland Laboratory has practically completed its present phase and has resulted in the ascertainment of facts which are most important to a large section of the industry.

The Association now has in progress, as recommended by the Committee on Coordination of Scientific and Marketing Research, and approved and financed by the Executive Board, research in pipe coverings, in pipe joints, and in house cooling. We are financing a survey of gas-making properties of American coals conducted for us by the U. S. Bureau of Mines.

The Association finances and conducts, through efficient committees of the Natural Gas Department, research in measurements of large volumes of gas and in pipe line flow. Reports at the recent Kansas City convention showed marked progress in these important undertakings. That Department has now organized a committee to conduct research in the open flow of gas wells.

While these items of research are specifically referred to, the fact is that our research activities now reach into almost every department of the business. Rather than single out others—for they are too numerous to mention here—it may be said that such activities are not confined to engineering and technological problems. They include projects in the fields of accounting, sales and marketing, production and distribution, and range from commercial problems to those in the domain of pure science. They will be found catalogued and described in the booklet, "The Research Activities of the American Gas Association," published by the Association in 1928.

4. "That especial and continued attention be given to the subjects of asphyxiation and resuscitation."

Three years of research in warning agents at the Bureau of Mines in the Experiment Station in Pittsburgh and in the field have been completed.

Through the Cleveland Laboratory we

RESOLUTIONS PASSED AT ANNUAL SPRING CONFERENCE

THE following resolutions were passed at the Spring Conference of the Executive Board of the American Gas Association in Atlantic City on June 1, 1929, and were approved by the Executive Board:

"The Conference of the Executive Board and Advisory Council of the American Gas Association has heard with pleasure and pride the review of progress of the Three-Five Year Program of Association Activities, as presented by Hon. George B. Cortelyou, Chairman of the special committee which prepared the plan. It becomes more and more evident that the report of the Committee was wise, farseeing, progressive, and well-balanced, and that the Association directorate has adhered thereto constructively and successfully. To this plan and its execution we can justly attribute in large measure the satisfactory progress of Association affairs.

"We suggest republication of a review of the Three-Five Year plan and its results with the research activities of the Association.

"In an age when industries are more and more interrelated and interdependent, it is evident to the Conference that cooperation and friendly relations with trades affording additional outlets for the sale of our product is essential to our progress, and that the spirit which must be behind such cooperative endeavor merits careful cultivation and sincere development.

"We desire to extend our thanks and appreciation to the Committee on Program and Arrangements and all others who participated in the discussions for the contributions which they have made to the success of this Conference. We also desire to express our appreciation of the successful efforts of the officers and headquarters staff of the Association in preparing for this meeting and conducting it so as to conserve the convenience of all members of the Conference."

have a practically complete line of domestic appliances complying with national basic standards of safety. Large amounts of educational work have been done in connection with the medical profession and in other directions dealing with resuscitation. The Association has produced a film portraying the prone pressure method of resuscitation, publishes a standard text book on this subject, and promotes its use in every possible way.

5. "That every effort be made to enlist cooperative support of the Testing Laboratory."

It may safely be said that the A. G. A. Testing Laboratory has complete cooperation within and throughout the industry. The splendid support given by manufacturers has been most gratifying. The use to be made of the Approved Seal is now clearly defined and well understood as a result of careful study by a responsible committee whose deliberations have been approved by the Executive Board.

6. "That the Association assemble, so far as possible through the aid of local gas companies, in cities where appropriate conventions are held, displays of industrial heating appliances, to be exhibited at such conventions."

We now exhibit annually at the exhibition of the American Society of Steel Treating. Through appropriations made by the Board we are also participating in the annual exhibitions of the American Ceramic Society, the American Society of Baking, the power show, and in the heating and ventilating exposition.

7. "That the campaign of advertising, in trade journals, gas for industrial heating, be continued."

The campaign of advertising industrial gas in trade journals has not only been continued but has been expanded through the action of the Executive Board this year in increasing the appropriation from $35,000 to $50,000.

8. "That the Association form a special committee of executives, commercial men and manufacturers to work out a cooperative plan of national advertising."

The Association has had ever since the Three-Five Year Program was adopted, and now has, a Committee on National Advertising. No plan has yet been devised. The Committee has, however, with the approval of the Executive Board, prepared and made available to the industry a regional plan for cooperative advertising based largely on the New England procedure.

9. "That the campaign of education be continued; and that coincident with this work the

Association support courses in gas engineering and fellowships in educational institutions."

Our educational work is continuous and carefully planned so as not to strain our resources. It is realized that this is a permanent job. The Association gives its moral support to all institutions in which men and women are being trained for service in the gas industry and arranges for lectures and for the distribution of printed material whenever the opportunity offers. Encouragement is given to courses in gas engineering, such as those at the Johns Hopkins and Purdue universities. The Home Study Courses in Manufactured Gas offered by Columbia University continues under the auspices of our Committee on Education of Gas Company Employees. The Board has authorized and the Committee is now at work on a popular film on the use of gas. This Committee is also considering the preparation of an elementary course in gas manufacture, distribution, and utilization.

10. "That the statistical work of the Association be kept responsive to the needs of the industry."

In accordance with this recommendation, the statistical work of the Association has been gradually enlarged and is supported by appropriations in the budget. Universal testimony is that this work is developing into an invaluable service to Association members.

11. "That a general policy be adopted which will recognize the just claims of the several sections of the country, as to the time and place of the annual conventions."

The annual convention of the Association was held in 1927 in the city of Chicago.

12. "That a study be made of necessary modifications of the By-Laws."

This has been done and appropriate amendments adopted.

13. "That there be continued adherence to the policy that the Association shall not extend its work beyond those objects which are of first importance and greatest practical value to the industry, it being obvious that if its activities become broadened beyond the scope of practical accomplishment its influence will inevitably be weakened."

This has been wisely adhered to. Its value has been demonstrated by experience and may well stand as a permanent fixture of Association policy.

14. "That with the exception of the five-year industrial gas research fund, there should be no special assessments on the members for any purpose but that all activities judged by the Board to be necessary should be paid out of the treasury, each member contributing a just share of the funds to finance its activities."

This has been strictly followed since the adoption of the Three-Five Year Program. There have been no special assessments for any purpose on our members except for the single item referred to in the Program.

15. "That the President be authorized to appoint a committee to formulate plans for providing the funds to meet the foregoing recommendations."

This was done in 1926-7. The membership of the Association unanimously approved the necessary increases in dues as recommended by the Board.

In addition to the foregoing specific recommendations contained in the report of the Special Committee, there was a discussion of matters of general import and certain recommendations were made in the direction of improved efficiency. Among them may be mentioned the following:

"Our relations with affiliated associations are excellent and should be broadened and strengthened."

This has been done, and is receiving continuing attention.

"A weakness sometimes discernible in our organization"—quoting from the report—**"is**

the tendency of sections and general committees of the Association to work independently of each other. Each section and committee (naturally and laudably) wants to make a good showing during its year in office; hence a tendency to concentrate upon its own immediate objective to the exclusion of all other considerations; but the Association interest lies in continuity of effort and cumulative results. Section and general committee work should be guided with this in mind, that programs and activities may be continuous, and related activities coordinated for the utmost of unity and effectiveness."

This subject has received particular consideration. We have a system of interlocking membership, on sections and committees that makes for greater harmony, closer cooperation, and more effective results than ever before.

Here, I submit, is a record of accomplishment in which we may all take pride. It was made possible only by the loyal cooperation of our entire membership. It is naturally gratifying to the members of the Special Committee that they were able to draw up a program that has stood so well the test of time and has been productive of so much benefit to the industry. Of course, no program can be final or complete. The last word will never be spoken. As some of our objectives are attained, others will loom into view, and this will continue as long as our Association is a going concern. As the Committee itself pointed out in its report: "Manifestly the committee cannot set forth in extended detail a plan to follow through the years to come. Conditions change as time passes, and there must be readjustments as new problems or new aspects of our business come into view."

One of the advantages of a consistent and well-considered program is that it enables us to focus our energies and resources upon essentials, to concentrate upon objects of primary importance and to coordinate all our facilities in the task of attaining them. It prevents waste and duplication and the dissipation of effort upon side issues which, however alluring they may appear at the moment, do not advance the main purposes of the Association, but rather retard and embarrass them. If the Three-Five Year Program has done nothing more than prevent such misadventures, it would appear to have been abundantly justified; but it has done more—it has, we believe—based on the facts of record—been a controlling factor in shaping the activities of the Association along constructive and upbuilding lines for the good of the industry and the public served by it. Its influence is continuing and will be projected into the future.

Although not perhaps strictly germane to the matters discussed in the report and reviewed in this statement, there is a subject to which I venture to invite the attention of the Conference at this time, not for definite action, but for reflection and consideration—and that is the growing multiplicity of conventions, conferences, and meetings of all kinds. I do not know that our industry is an offender in this respect, and I have no particular case in mind, but the conviction is gaining ground that the convention habit generally is being overdone, that too much of the time of executives and others is consumed in preparation for and attendance upon local, county, state, regional, and national meetings and conventions. It is at least debatable whether the results in all cases justify the tremendous expenditure of time, effort, and money involved. While it is difficult to put one's finger upon any particular activity of this sort and say that it is unnecessary and should be suppressed, we may well look searchingly into our situation to see whether there has been needless expansion in this direction.

TO EXECUTIVES

ALL readers of the American Gas Association MONTHLY should remember that reprints of all articles appearing in the magazine can be had at cost.

A great many companies have in the past ordered reprints of particularly important articles for distribution to all employees, and it is felt that other companies will find similar use for reprints of certain articles.

As previously said, all reprints are made at actual cost of printing. Prices will be quoted on request.

Gas Sales Increase at Record Rate In First Four Months of 1929

AN increase of 12 per cent in gas sales was registered during the initial four months of 1929 by the first 81 gas companies reporting to the statistical department of the American Gas Association.

The percentage increase of customers in the first four months of 1929 as compared with 1928 was 2.8 for these 81 companies, according to records of the statistical department. Revenues from gas sales increased 5.4 per cent in the same period.

Sales of gas for house heating purposes continued to show rapid increases. For the first four months of 1929, house heating sales in the state of Michigan increased 77 per cent over the corresponding period of 1928, while Massachusetts and Wisconsin showed increases of 64 per cent in this phase of sales activity for the same period.

The high rate of general industrial activity in the middle west is reflected in an increase of over 17 per cent in sales of gas for industrial and commercial purposes during the first four months of 1929 in the state of Michigan, while Illinois showed an increase of 12 per cent in this class of business.

Sales of gas for house heating and industrial purposes grow apace

The changes in gas produced and purchased during the first four months of 1929 and during April, 1929, are shown in Table 1. Similar data for individual states and geographic regions may be obtained from the Statistical Department.

New England States

Nineteen of these 81 companies located in the New England states reported a 2.1 per cent increase in customers, a 6.4 per cent increase in gas sales, and a 4.6 per cent increase in revenue for the first four months of 1929.

For the month of April, as compared with April, 1928, these New England companies report a 2.1 per cent increase in gas custom-

(Continued on page 431)

Statistical Department—American Gas Association

TABLE 1—COMPARATIVE STATISTICS OF 81 GAS COMPANIES FOR APRIL AND FOUR MONTHS ENDING APRIL 1929—TOTAL UNITED STATES

	Jan.-April 1929	*Jan.-April 1928*	*Percent Increase**	*April 1929*	*April 1928*	*Percent Increase*
(1) Customers	7,874,248	7,656,730	2.8	7,874,248	7,656,730	2.8
(2) Gas Sales (MCF)	136,429,124	123,604,445	12.0	32,201,776	29,442,058	9.4
(3) Revenue ($)	126,176,406	120,664,582	5.4	29,919,121	28,693,064	4.3
(4) Gas Produced (MCF)						
(a) Water Gas	56,171,129	59,066,921	—4.1	12,680,374	13,999,521	—9.4
(b) Coal and Coke Oven Gas	22,669,964	20,446,180	11.8	5,674,016	5,170,358	9.7
(c) Oil Gas	12,660,743	10,839,325	17.8	2,825,696	2,438,958	15.9
(d) Total Gas Produced	91,501,836	90,352,426	2.1	21,180,086	21,608,837	—2.0
(5) Coke Oven Gas Purchased	25,705,530	21,510,392	20.5	6,593,501	5,035,636	30.9
(6) Total Mfd. Gas Produced & Purchased	117,207,366	111,862,818	5.7	27,773,587	26,644,473	4.2
(7) Natural Gas Purchased	34,683,104	22,418,244	56.0	7,674,957	4,859,176	57.9
(8) Total Gas Produced and Purchased	151,890,470	134,281,602	14.0	35,448,544	31,503,649	12.5

Bonbright Publishes Another Utility Booklet

THE ninth edition of **Public Utility Points**, issued by Bonbright & Company, Inc., New York, N. Y., is now available. This interesting pamphlet gives pertinent facts on the public utility industry of interest to every investor.

Considerable space is devoted to the gas industry. Statistical information which was prepared by the statistical department of the American Gas Association is included.

The following paragraphs have been abstracted from the booklet:

"At the present time, the most rapidly developing branch of the residential gas business is the use of gas for water and space heating. The sale of economical gas appliances is greatly stimulating domestic gas sales.

"Gas is being used in increasingly large amounts by those industries which need heat in its most adaptable, efficient and convenient form. At the present time, gas sales to industrial and commercial customers are increasing at an even faster rate than sales for domestic consumption. Gross revenues from all sources in 1928 were 3.6 per cent above those of 1927.

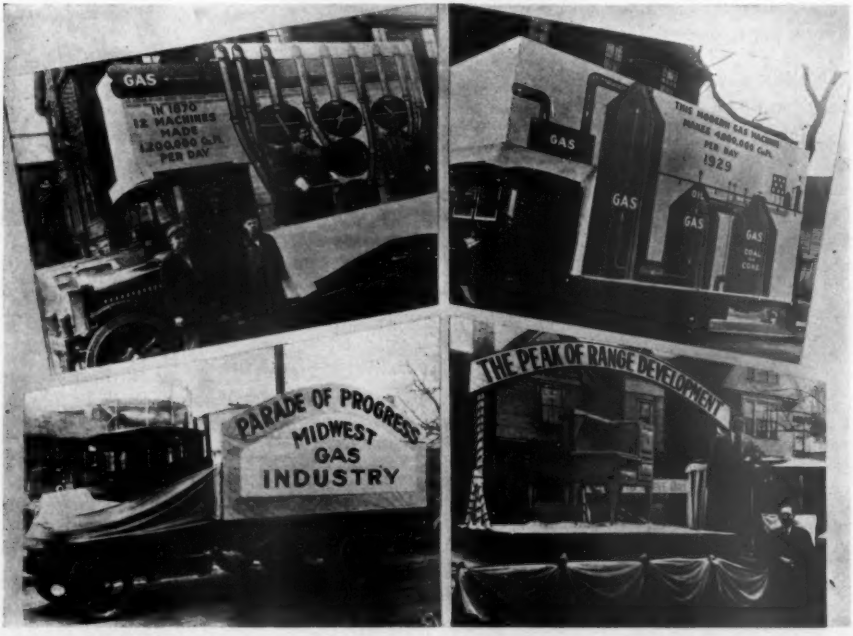
"It is noteworthy that whereas domestic sales have increased nearly 55 per cent during the past ten years, industrial and commercial sales have increased by almost 109 per cent. Of the total sales in 1928, approximately 69 per cent were made to domestic customers and about 30 per cent to industries and to hotels, restaurants and other commercial consumers."

An interesting feature of the booklet is a table comparing the stability of seven representative industrial corporations with that of seven large utility companies in respect to the balance available for dividends. Consideration is also given to customer ownership and public and private ownership as well as an analysis of insurance company investment in utility companies.

A limited number of copies of this booklet are available and will be sent to interested persons if they write to Bonbright & Company, Inc., 25 Nassau Street, New York, N. Y.

"Laughing Gas"

THE editorial staff of the Peoples Gas Club News, the official semi-monthly publication of the Peoples Gas Club of The Peoples Gas Light & Coke Co., Chicago, Ill., has issued an attractive pamphlet containing jokes which have appeared in the News during the year 1928.



A feature of the recent meeting of the Mid-West Gas Association, at Minneapolis, was a Parade of Progress, depicting the progress of the gas industry. The pictures shown here are of several interesting floats

This layout shows the direct-mail pieces prepared for the use of companies which are subscribing to the 1929 New England program of regional advertising. Officials in charge of the program report a large number of orders for the various pamphlets and mailing pieces.

Regional Advertising Plan of A. G. A. Is Now Available

THE "Plan of Regional Cooperative Advertising," prepared by the American Gas Association, is now available. This plan consists of a brief foreword on cooperative advertising, a detailed analysis of the New England Plan of Regional Advertising, and a suggested adaptation of the New England Plan.

This plan was formulated by a special subcommittee of the Publicity and Advertising Section, at the request of the Executive Board of the American Gas Association. Frank LeRoy Blanchard, of New York, N. Y., was chairman of this subcommittee, and the following were members: James M. Bennett, Philadelphia, Pa.; William H. Hodge, Chicago, Ill.; Henry Obermeyer, New York, N. Y.; C. D. Williams, Boston, Mass.; E. Frank Gardiner, Chicago, Ill.; and Charles W. Person, Pittsburgh, Pa.

Copies of this plan have already been mailed to all delegates of member companies of the A. G. A.

ROBERT M. SEARLE, President of the Rochester Gas and Electric Corp., Rochester, N. Y., has been appointed a member of the Advisory Committee of the Johns Hopkins University course on Gas Engineering.

Rissberger Is Made Chairman of Educational Committee

A. C. Rissberger

PRESIDENT FOGG has appointed A. C. Rissberger, of the Rochester Gas & Electric Corp., Rochester, N. Y., as chairman of the American Gas Association Committee on Education of Gas Company Employees.

Mr. Rissberger succeeds E. H. Bauer, who resigned to accept a position in South America.

Mr. Rissberger was born in Butte, Montana. His technical education was received in the University of Michigan, from which he graduated in 1913 with the degree of B.S. in Electrical Engineering. Soon thereafter he entered the engineering department of the present Rochester Gas & Electric Corp., and after several years in the engineering and industrial sales departments, he became assistant director of company work which now includes personnel, safety, educational, public speaking, and allied functions. During the war, in 1918, he acted as manager of the central employment department which was established to procure labor and help stabilize labor conditions in about sixty Rochester manufacturing and munition plants on war work. He is active in the local Chamber of Commerce and other civic bodies.

Gas Refrigeration Program is Being Broadcast

THE merits of gas refrigeration, presented in playlet form, are now to be heard each Wednesday morning over the National Broadcasting Co. system from Station WEAF. On May 15 at 10.30 o'clock, Eastern Daylight Saving Time, the Electrolux players made their air debut in a domestic skit to be heard from 16 important stations throughout the country. Sponsored by Servel Sales, Inc., these playlets will continue a regular weekly feature of the National Home Hour, a bi-weekly program.

Each playlet has been written to get across in the form of entertainment the salient facts about gas refrigeration. The broadcasting features will be heard from these stations: WEAF, New York; WEEI, Boston; WTIC, Hartford; WJAR, Providence; WTAG, Worcester; WCSH, Portland, Me.; WFI, Philadelphia; WRC, Washington; WGY, Schenectady; WGR, Buffalo; WCAE, Pittsburgh; WEAR, Cleveland; WWJ, Detroit; WSAI, Cincinnati; WHO, Des Moines; KFKX, Chicago.

Attention—Manufacturers of Gas Appliances

THE American Gas Association has been requested to announce that H. J. Hagerty, chief of the purchasing department of the Compania Primitiva de Gas de Buenos Aires, Lda., Buenos Aires, Argentina, is a prospective purchaser of gas appliances.

Mr. Hagerty will be glad to hear from all American manufacturers of gas appliances.

Brooklyn Union Conducts An Inspection of New Plant

THE Brooklyn Union Gas Co., Brooklyn, N. Y., through its President, James H. Jourdan, entertained the members of the Society of Gas Lighting and other prominent men identified with the gas industry, on May 15.

The Society of Gas Lighting is the oldest gas engineering association in the country, having been founded in 1875. Its membership comprises executives and engineers of gas companies operating chiefly in the eastern part of the United States. The purpose of the occasion was the inspection of the new Greenpoint Works of the Brooklyn Union Gas Co.

There were more than 100 persons in the inspection party. The group was received at the company's office by C. E. Paige and F. C. Weber, and were conveyed to the gas plant.

The Greenpoint Works of the Brooklyn Union Gas Company, besides being equipped with a carburetted water gas plant capable of producing 20 million cu.ft. of water gas per day, has a coke oven plant with a production capacity of a similar volume of coke oven gas.

The Greenpoint Works at present has a gas producing capacity of approximately 40 million cu.ft. daily. The plant is so designed that it may be expanded to an ultimate production of nearly 200 million cu.ft per day.

Airplane view of Greenpoint Works

What Is This Thing Called Advertising?

By HENRY OBERMEYER

Henry Obermeyer

IN the public utility business, and probably in every other business as well, we have to consider advertising from two viewpoints: First, its use as a selling medium, and second its uses for propaganda. These two objects are often closely related, but not necessarily so.

Let us not be afraid of the word "propaganda," although it has come to have so many sinister meanings that it would be well if we could find some other word that did not have its somewhat shady associations. Propaganda simply means selling an idea, as distinguished from selling your services or a piece of merchandise. So far as its public character is concerned, it need not differ from any other form of advertising. It need not be carried on under cover nor in any other concealed fashion.

There has been rotten propaganda, just as there has been rotten advertising, and to prove the point one has only to go back to the early days of unrestricted patent medicine advertising, or, even nearer at hand, possibly some of the present advertising of cigarettes, concerning which, and on more than one score, there has been a great deal of criticism.

Selling an idea may be, and frequently is, as important to the business of the gas company as selling gas or merchandise. In fact, it is the modern way of doing business on a large scale. As Edward L. Barnays in his recent book on the subject has pointed out, virtually no important undertaking is now carried on without propaganda, whether that enterprise be building a cathedral, endowing a university, marketing a moving picture, floating a large bond issue, or electing a president. And, again, he writes:

"In our present social organization, approval of the public is essential to any large undertaking. . . . The industrial interests can furnish to the schools, the colleges, and the post graduate university course the exact truth concerning the scientific progress of our age. They not only can do so, they are under obligation to do so. Propaganda as an instrument of commercial competition has opened opportunities to the inventors and given great stimulus to the research scientist. In the last five or ten years the successes of some of the larger corporations have been so outstanding that the whole field of science has received a tremendous impetus. The American Telephone and Telegraph Company, The Western Electric Company, The General Electric Company, The Westinghouse Electric Company, and others have realized the importance of scientific research. They have also understood that their ideas must be made intelligible to the public to be fully successful. . . . Propaganda assists in marketing new inventions. Propaganda by repeatedly interpreting new scientific ideas and intentions to the public has made the public more receptive. Propaganda is accustoming the public to change and progress."

Fundamentally, of course, propaganda has an interested motive. When the gas company wishes to interest the public in insulation of gas ranges, in automatically operated gas equipment, in the idea of gas refrigeration, it uses propaganda just as much as when it issues information to investors with respect to the financial development of the company and gives the public information with respect to taxation and other economic factors which are of equal importance to the company and to the customers whom it serves. We tell our people as much as we think will be interesting to them respecting the details of our service, so that by a thorough understanding of what we are trying to accomplish, our task will be just that much lighter and the public will receive the benefits of improved service.

In spreading this propaganda, if you wish to call it that, the company uses paid advertising space in the newspapers, radio broadcasting, house organs, motion pictures and talks to organized groups with the help

Mr. Obermeyer is assistant to the vice-president of the Consolidated Gas Company of New York, N. Y.

of employees trained for this purpose. Important as these functions of advertising are, the company could not very well succeed without devoting the major part of its advertising expenditure to the purpose of extending its business.

I say this with no intention of exaggerating the importance of the advertising department. I like to believe that my services to the company would still be utilized without in any way diminishing their value if it were possible for the company to give up all of its advertising activities to-morrow. At the present time, however, advertising is generally accepted as being the most economical and efficient method of selling services and goods in the greatest bulk to the greatest number of people.

Window display is one important form of advertising that gas companies should utilize to the utmost

It is only at sales and bazaars that people buy things without previous information, and advertising performs the function of spreading this information broadcast. It is also used over a longer period of time to convince the public of the superior advantages of a product, and it is at this point that merchandising advertising approaches the borders of education and propaganda.

So necessary has advertising become in the conduct of modern business that the company's advertising record has an influence in attracting new capital into the business.

Roy S. Durstine, a partner of Batten, Barton, Durstine, and Osborn, has this to say in his recent book entitled, "This Advertising Business":

"The bankers of the coming generation will hesitate to lend money to a business man who is not advertising, for they know that he is probably due for a deficit. Likewise investors will look more and more keenly into the advertising policies of corporations whose bonds and stocks are offered for sale."

Roger W. Babson, well-known economist and statistician, writing in *Collier's Weekly* on the subject "Worth Your Money" says:

"Regarding individual men, it has been said that some are born great and others achieve greatness. Not so with the business. A permanently successful business is never born great, but must achieve greatness with national advertising playing an almost indispensable role."

So far as I can do so briefly, I have outlined the objects of our advertising activities. How does the advertising department go about the task of carrying them into effect? Obviously the advertising department—and I am speaking now of advertising departments generally—does not create the company's policies, although it may and very properly does suggest the adoption of policies and activities which it believes will make the public more favorably disposed toward the company and its products.

Whatever it does, it must bear two things constantly in mind. The first is public opinion, that is to say, what the public thinks and what the public wants. The second is the company's viewpoint—namely, what the company is trying to do to influence this thinking or to satisfy those desires. It is impossible to say that one is more important than the other. Keeping an eye on each of these factors, it is the advertising department's duty to select the mediums through which the company can attain its objects in the most economical and effective way.

What shall we say to the public? This question is answered largely by conferences

with department heads and those executives who originate the company's policies and give weight to their respective importance.

Once this is established, the advertising department must determine how the company's message is to be conveyed. In what language, in what form, and through which mediums, also adapting its methods to a not-too-variable limit of expenditure.

It is a foregone conclusion that we will use the newspapers to a considerable extent. We will use them first of all, because they constitute the only medium that practically everybody reads. Not only does everyone read the newspaper, but there is probably no other force which so largely influences human action.

Consider this the next time you meet an acquaintance: Practically all casual conversation springs from one of three sources. It is related either to your business or occupation, to gossip about social affairs and mutual friends, or it is based upon some reference to an interesting item noted in the newspaper of the day. Even talk about the weather is based on newspaper reading, and the weather reports constitute the first item which many people look at when they get up in the morning.

"Lovely day, isn't it?"

"Yes, but I hear there is a blizzard coming in from the middle west; the paper says rain or snow tomorrow."

We use the newspapers whenever we have information which we wish to impart to the greatest number of people, at a given time, and to be sure that the largest proportion of our customers read what we have to say. We also use the newspapers when we want to create interest in any particular branch of our service, because it is realized that unfamiliarity with the product constitutes one of the greatest barriers to the work of the salesman. With its admitted influence, the newspaper gives the sales talk a background of acceptance, which is also essential to the successful transaction of any business.

The advertising department selects the

Selling a specific use for gas is the duty of this advertisement

newspapers in which the advertising is to appear, prepares or supervises the preparation of copy, art work, etc., arranges schedules and checks the copy when it appears. The same procedure is followed in the case of magazines and other periodicals.

Another medium that plays an important part in the advertising program is what is known as direct mail, or direct-by-mail advertising.

Mailed advertising is of two kinds. First, we have the general type illustrated by the *Greater Service News** and return postal cards which are distributed, monthly, with the gas bills. These are informative and serve to stimulate our customers to correspond with the company about particular items of service. A good many thousands of such contacts are made in this way during the year and are turned over to respective sales divisions for personal follow-up, in case the lead seems promising.

Literally, however, direct mail advertising means advertising directly to the individual with at least some knowledge of whether

* "Greater Service News" is a monthly four-page customers' magazine.

or not he is in a position to use or buy the product you are selling. This involves the careful preparation and study of mailing lists and the equally important function of keeping them up-to-date. We are aided in this by the use of customers' ledgers and further assisted by a special service rendered by the telephone company, which supplies us with loose-leaf listings of all telephone customers, arranged by addresses instead of in alphabetical order, and which is kept up-to-date once or twice a month.

With our present organization, and with the extremely valuable assistance of the Branch Office forces, which help us to insert advertising material into envelopes, we are able to mail out approximately 100,000 pieces of mailing material to our lists each month.

We have a number of lists completed at the present time and others in process of being made up. The most valuable of our lists is a list of customers living in private homes who are generally regarded as good prospects, not only for house heating and water heating, but for every aspect of our business. In addition to this, we have lists of boarding houses and commercial establishments who are valuable as prospects for water heating and possibly laundry drying. We have lists of the owners of cooperative apartments, to whom we should be able to sell refrigerators, automatic insulated ranges, and fire-place heaters, and we also have a growing list of apartment dwellers who have adequate facilities for fire-place heaters. We have a list of virtually all apartment houses in the city, together with the agents and owners of same, whom we expect to circularize on gas refrigeration and summer water heating.

Direct mail advertising thus involves a good many things besides the mere preparation of the little folders and broadsides, illustrated letters, etc., which go out to our customers. This, in fact, is the smallest part of the work although we are constantly studying ways and means of making this material more effective and increasing its pulling power.

I have spoken above of such mediums as radio broadcasting, public speaking, and motion pictures. These three mediums also perform a unique function quite different from that of newspaper or direct mail advertising. They are more informal, for one thing, and can be used to better advantage to create an atmosphere of friendship, which is an essential qualification for all selling. They also introduce the personal contact and can be managed so as to answer the spoken or unspoken questions in the minds of the audience.

Radio is particularly suitable for the extension of our home service work and has been freely used for this purpose. Motion pictures have been prepared depicting the history of the gas company, manufacture of gas, and its uses for both domestic and industrial purposes. Our motion pictures have had widespread distribution during the last few years and during the past year alone were shown to approximately 250,000 persons.

Our speakers' bureau, selected from public speaking classes held regularly every week, now has a membership of approximately 30 men and women who cover on an average of three to five assignments per day, talking to women's clubs, schools, fraternal organization, churches, etc., on the subject of gas service and its relation to the many requirements of the public.

In many organizations these mediums are not always regarded as part of the advertising program of the company, but, after all, the spoken word and the moving picture are but different applications of the same principles which underlie all advertising: Namely, to attract, to convince, and to stimulate favorable action. It seems entirely proper that the advertising department should have the opportunity of using every existing medium which, in its judgment, will most effectively carry the particular message which the company has for its customers. Under such conditions the trained advertising man can play upon the whole instrument of publicity, using these various mediums just as an organist uses the stops of the organ.

[TO BE CONCLUDED]

Nominating Committee Reports for 1929-30

B. J. Mullaney

C. E. Paige

TO members of the American Gas Association: In compliance with Section 2 of Article II of the By-Laws of the American Gas Association, announcement is hereby made to the membership of the following report of the General Nominating Committee which will be presented to the annual convention in Atlantic City, N. J., in October, 1929:

For President—Bernard J. Mullaney, vice-president, The Peoples Gas Light and Coke Co., Chicago, Ill.

For Vice-president—Clifford E. Paige, vice-president, The Brooklyn Union Gas Co., Brooklyn, N. Y.

For Treasurer—William J. Welsh, President, New York and Richmond Gas Companies, Staten Island, N. Y.

For Directors—2-Year Term:

H. C. Abell, Electric Bond & Share Co., New York, N. Y.

J. S. DeHart, Jr., Isbell-Porter Co., Newark, N. J.

F. C. Freeman, Providence Gas Co., Providence, R. I.

R. W. Gallagher, The East Ohio Gas Co., Cleveland, Ohio.

Arthur Hewitt, Consumers Gas Co. of Toronto, Toronto, Ont., Canada.

F. T. Hulswit, American States Securities Corp., New York, N. Y.

A. B. Macbeth, Southern California Gas Co., Los Angeles, Calif.

T. N. McCarter, The Public Service Electric and Gas Co., Newark, N. J.

Fred A. Miller, S. R. Dresser Mfg. Co., Bradford, Pa.

Respectfully submitted,

E. H. Rosenquest, Chairman,
Ewald Haase F. J. Schafer
G. S. Hawley W. E. Steinwedell
T. R. Weymouth

The following are nominated by Section Nominating Committees to serve as Section Officers for the Association year 1929-1930:

Accounting Section: Chairman—J. L. Conover, The Public Service Electric and Gas Co., Newark, N. J.; vice-chairman—J. I. Blanchfield, The Brooklyn Union Gas Co., Brooklyn, N. Y.

Commercial Section: Chairman—Geo. E. Whitwell, The Philadelphia Company, Pittsburgh, Pa.; Vice-chairman, Merle E. Skinner, Mohawk-Hudson Power Corp., Albany, N. Y.

Industrial Gas Section: Chairman—C. C. Krausse, Consolidated Gas Electric Light & Power Co. of Baltimore, Md.; Vice-chairman—D. W. Chapman, The Peoples Gas Light and Coke Co., Chicago, Ill.

Manufacturers Section: Chairman—F. G. Curfman, The Improved Equipment Co., New York, N. Y.; Vice-chairman—E. S. Dickey, Maryland Meter Works, Baltimore, Md.

Publicity and Advertising Section: Chairman—James M. Bennett, The United Gas Improvement Co., Philadelphia, Pa.; Vice-chairman—Donald M. Mackie, Consumers Power Co., Jackson, Mich.

Technical Section: Chairman—B. V. Pfeiffer, The United Gas Improvement Co., Philadelphia, Pa.; Vice-chairman—R. G. Griswold, Cities Service Co., New York, N. Y.

President Fogg is Honored By German Association

A CABLEGRAM from the German Gas and Water Association, Berlin, Germany, announces the election of Oscar H. Fogg, President of the American Gas Association, as an honorary member of the German association.

Brooklyn Poly Has Course on Gas Engineering

Prof. Church

THE evening course on Gas Engineering at the Brooklyn Polytechnic Institute, Brooklyn, N. Y., has completed its second year very successfully. This course is sponsored by The Brooklyn Union Gas Co., and about fifty students, mostly from that company and from the Consolidated Gas Company of New York, completed the work this year.

Some 25 lectures were delivered by the staff of the Polytechnic Institute and by representative men from the gas industry. Clifford E. Paige, vice-president of The Brooklyn Union Gas Co., fittingly wound up the course by an address on "The Relation Between Company and Consumer."

Professor E. F. Church, Jr., head of the Mechanical Engineering Department of the Polytechnic Institute, has been again in active charge of the work, with T. B. J. Merkt, of The Brooklyn Union Gas Co., in charge of the extensive laboratory program. A. Gordon King, service engineer of the American Gas Association, and John A. Setchell, of the faculty of the Institute, assisted in the arrangements and conduct of the course. Other lecturers were J. F. Anthes, E. C. Uhlig, F. C. Weber, J. Jares, T. P. Payne, and C. S. Goldsmith of The Brooklyn Union Gas Co., and Prof. W. F. Whitmore and J. A. Lambertine of the Institute's faculty.

While by active participation The Brooklyn Union Gas Company has promoted this work, they have made it very plain that they do not limit the advantages of this course to their own employees. In addition to the two companies named above, men have completed the course who are employed with The Brooklyn Borough Gas Co., Kings County Lighting Co., and several companies associated with the Consolidated Gas Company of New York. Interest has also been manifested by The Public Service Electric & Gas Co. of N. J., The Long Island Lighting Co., and the Central Hudson Gas and Electric Corp. It would seem that other companies might have men, located in this district, who would be interested.

In connection with this course Prof. Church announces that the Institute will be in a position next year to receive applications from a limited number of gas utility corporations in the metropolitan area in regard to men enrolling for this work. The sponsors feel that the work has a very definite value for men who wish a brief but comprehensive consideration of the technical background and valuable laboratory contacts with the outstanding physical characteristics of the gas industry at the present time. Not the least benefit of educational work among men engaged in industries is the opportunity for acquaintance it affords among men from widely separated departments and plants.

Particulars may be obtained from Prof. E. F. Church, Jr., at the Brooklyn Polytechnic Institute.

Brooklyn Union Enrolls New Class in Columbia Course

ON June 5 a class of 28 men from The Brooklyn Union Gas Co., Brooklyn, N. Y., were enrolled in the Home Study Course in Manufactured Gas which is given by Columbia University in cooperation with the Committee on Education of Gas Company Employees of the American Gas Association.

This brings the total number of men enrolled from this company to 115. Of the 87 men who were enrolled previously from The Brooklyn Union, 49 have already completed the course.

A noteworthy fact in connection with the 28 new men who have enrolled is that the majority of them obtained their preliminary training in chemistry and physics at the Brooklyn Y. M. C. A. Night School and have prepared themselves further for the Columbia course by taking the course in elements of gas engineering offered by the Brooklyn Polytechnic Institute.

Here Is Another Woman Who Is Head of a Gas Company

Miss Luhring

IOWA is boasting of a woman in complete charge of a gas company. Miss Viola Luhring is manager of the Waverly Gas Company, Waverly, Iowa, and has eight men working for her. This company is a subsidiary of the Iowa Public Service Company.

According to a recent investigation, the only other woman who has charge of a gas company is Miss Mary E. Dillon, President of The Brooklyn Borough Gas Company, Coney Island, N. Y.

Miss Luhring is 26 years old. She entered the employ of the gas company six years ago and two years ago was made manager. In addition to office knowledge, she has also gained considerable technical knowledge and can couple gas pipes and make repairs herself.

© Brown Bros.

What the Public Expects

By H. C. BLACKWELL

H. C. Blackwell

THE public under normal conditions, in the absence of agitation from one source or another, is not particularly interested except to the extent of always being able to secure all the gas it needs whenever it needs it, and that the rates charged are fair. It is likewise important that transactions they must necessarily have with the company are conducted on a pleasant and satisfactory basis. When we accept a franchise, I assume the public has every reason to expect that we will provide an unfailing supply of gas under proper pressures, of uniform quality. This seems no more than reasonable.

I have referred to what I believe is but a passive or dormant interest on the part of the public and I am of the opinion that this remains so, provided outside influences are not interjected, just so long as the service rendered by the utility company is first-class in every respect and consequently does not give cause for unfavorable comment from the standpoint of quality of service or treatment of the public.

On the other hand, if for any reason, our service cannot be depended upon, if the supply is interrupted, no matter what the cause might be, if our pressures are good today and low tomorrow, or the B.t.u. high this week and down for a day or two next week, and again, if our handling of complaints or requests for information is not prompt and courteous, or the bills rendered our customers are as illegible or as nearly impossible of being deciphered as I have sometimes seen, we can but expect unfavorable comment. Inasmuch as all these details of our business are to a very large extent within our control, it seems that we are deserving of such criticism as we might find directed toward us as a result of poor management or operation. Likewise, we must accept the responsibility of accidents to transmission lines, causing gas shortages or drops in pressure, even though we, as distributing companies, might have nothing whatever to say concerning the operating details of the transmission company upon which we depend for our gas supply.

A large percentage of our customers is willing to overlook what might be explained

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Mr. Blackwell is President of the Union Gas and Electric Co., Cincinnati, Ohio.

Presented at Natural Gas Dept. Convention, Kansas City, Mo.

Telling the public the story of gas refrigeration is the job of this window display of the Consolidated Gas Co. of N. Y. The window also calls attention to the special showroom exhibit

to them as an occasional, unavoidable accident. Land slides, causing line breaks, are sometimes experienced by transmission pipe lines and those are accidents that, although they cause interruptions, are accepted with reasonable grace. Even though this form of interruption could not have been prevented, nevertheless our service has been interfered with and certain of our customers find fault and probably not without good cause.

Complaints under these conditions might be thought by some of us, thoroughly familiar as we are with all operating details, to be somewhat unreasonable. On the other hand, our customer is not expected to familiarize himself with our business and little does he interest himself in details of operation in connection with his supply of gas. But has he not a perfect right to inquire and complain when the service he receives from us is defective and his complaints will, of necessity, be of a more serious nature if our service or business methods continue to cause him inconvenience.

It is highly desirable that causes for criticism should be reduced to a minimum. Consequently we should provide proper office facilities for the transaction of business with our customer, and our employees to handle this work should be competent, well-informed, and courteous. We should eliminate unreasonable rules and regulations and simplify as far as possible our office procedure and operating methods, so that customer's requests may be executed promptly and satisfactorily. Proper supervision should be given correspondence with the customer and too much care cannot be exercised in seeing to it that those of our employees who carry on telephone conversations with our customers do so in a proper manner. These relations with the customer are strictly a function of management for which we are responsible.

Most of us depend upon the milkman for our supply of cream and milk, and I think I am safe in saying that we will accept the

(Continued on page 445)

Plan for Biggest A. G. A. Convention
In Atlantic City, N. J., Oct. 14-18

OCTOBER 14 to 18, at Atlantic City, N. J., there will be held by far the most important annual convention of the gas industry. This 11th annual gathering of the American Gas Association will be featured by a program of great value, a large and imposing exhibition of appliances and equipment, and entertainment features of a high order.

While it is too early to divulge details of the annual convention, it is already apparent that the 1929 meeting will have a strong drawing power, and that all previous attendance records are apt to be shattered.

Exhibit and Meetings Will Supplement Each Other

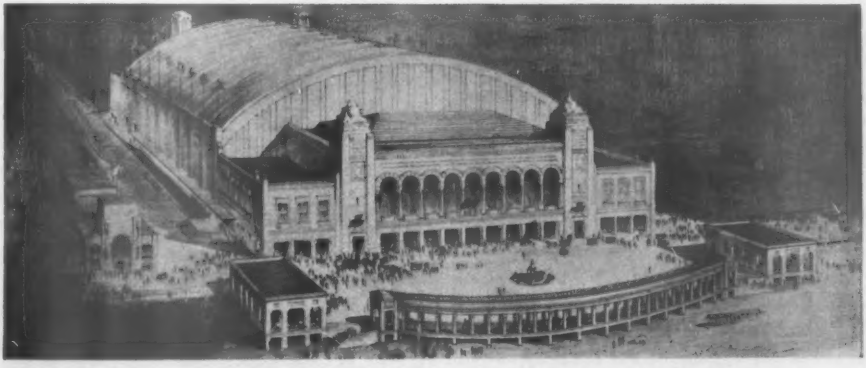
From its inception, the Association has endeavored at its annual meetings to give its members the maximum benefit both from exchange of thought and ideas at the meetings and from actual display of the latest developments of appliances and apparatus shown by the manufacturers at the annual exhibit. Each year the programs for the general and sectional meetings have received increasing care and attention in their preparation so that when the members of the industry assemble, attention can be focused on the subjects of most vital interest to the industry. Each year the very splendid exhibit has rapidly increased not only in size but in scope and importance. While this is a matter for congratulation on the part of the industry and the Association, nevertheless as activities have grown it has become increasingly difficult for the members attending to give adequate time and attention both to the meetings and to the exhibit which furnishes equal opportunities of an educational nature. To solve this problem the Association has decided this year upon a policy of reducing the number of afternoon meetings held by each section and to stagger these meetings in such a way that the members will have an opportunity to visit the exhibit at the following time:

All day Monday, October 14, the exhibit will be open for inspection without any conflicting meetings whatever.

On Tuesday afternoon, October 15, there will be no meeting of the Industrial Gas Section or the Accounting Section which will give the members of these Sections an opportunity to go through the exhibits of particular interest to them.

On Wednesday afternoon, October 16, there will be no meeting of the Commercial Section, Publicity & Advertising Section, or the Natural Gas Department.

On Thursday afternoon, October 17,



The new auditorium in Atlantic City—scene of A. G. A. convention, Oct. 14-18

there will be no meeting of the Publicity & Advertising Section or the Natural Gas Department.

The Technical Section, while holding three sessions, is starting their sessions at three o'clock instead of two o'clock, and the members will be urged to utilize this additional time to go through the exhibits of particular interest to them.

The primary reason for relinquishing of the meetings on the part of the Sections is prompted by a desire to have the meetings and exhibits supplement each other more completely. This announcement will be followed up with letters to gas company executives urging that they instruct their delegates to take advantage of the opportunity of studying the exhibits and reporting to their companies what they have learned through this inspection and how the developments shown would be of greatest use to their own companies.

Facilities of the Auditorium at Atlantic City will be very helpful in this endeavor to bring the meetings and the exhibits more closely together. The meeting rooms have been selected in all cases so that the members most interested in the exhibit will go through the exhibits to reach their meeting room.

Full understanding of these changed arrangements and full cooperation on the part of the members will result in greater benefits to the attending delegates.

Program

Of paramount interest to the gas men is the program of the general, departmental, and sectional meetings. The general sessions program has already been outlined in tentative form, and the General Program Committee will have a preliminary announcement to make regarding the program in the August issue of the MONTHLY.

H. C. Abell, of New York, N. Y., is chairman of the General Program Committee, and the following are members:

John J. Armstrong, of Toronto, Ont., Canada; John N. Cadby, Milwaukee, Wisc.; J. D. Creveling, New York, N. Y.; Miss Mary E. Dillon, Coney Island, N. Y.; S. E. Linton, Nashville, Tenn.; C. R. Prichard, Lynn, Mass.; C. J. Ramsburg, Pittsburgh, Pa.; Wm. J. Welsh, Staten Island, N. Y.; K. R. Boyes, New York, N. Y., and H. W. Hartman, New York, N. Y.

Of course, the various departments and sections of the A. G. A. all have committees working on the afternoon meetings which are to be held during convention week.

A "New" Atlantic City

While the gas industry is well acquainted with the beauties and conveniences of Atlantic City as a convention meeting place, they will find a "new Atlantic City" in many ways when the A. G. A. convention opens.

The new Atlantic City Auditorium, costing more than $15,000,000, and occupying seven acres of ground on the famous Boardwalk, will house the entire convention and exhibition. This auditorium, but recently completed, is the "largest convention hall in the world," and is equipped with splendid facilities for handling the meetings and exhibits.

The entire permanent population of Atlantic City, 66,000 persons, could be seated in the Auditorium, and still leave room to spare. The building is 675 feet long and 351 feet wide. There are no columns in the main auditorium chamber, the largest trusses in the world supporting a vast ceiling 135 feet above the main floor level.

The longest home-run ever made by Babe Ruth or any other baseball player would not go from one end of the main auditorium to the other.

More detailed announcement of the convention will be given in the August issue of the MONTHLY. The complete program will be printed in the September issue.

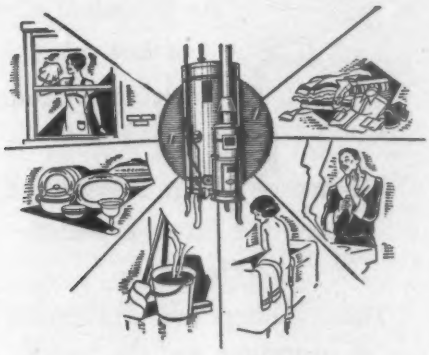
Plan to be at Atlantic City from October 14 to 18!

Ottawa Gas Co. Issues Book on House Heating

THE Ottawa Gas Company, Ottawa, Canada, has recently issued a very attractive 36-page booklet on gas house heating entitled "Cozy Homes with Gas Heating."

Photographs of many Ottawa homes which are heated with gas are included in the book, as well as pictures of two large buildings which are also heated with gas.

Mass Merchandising of Water Heaters
—IT CAN BE DONE—



By E. R. ACKER

WE have all recognized and debated the changing character of our loads and are seeking for the means to meet the new conditions and the new opportunities which have presented themselves or which we ourselves have created. It must be assumed, therefore, that realizing the changes in the character of our load and the markets for our product, we also realize the necessity for new marketing and merchandising methods to meet the situation. The gas industry is spoken of as an "old" industry and I am afraid that much of our thinking is controlled by that handicap. It is not years, however, that determine age in the vital sense, but the ability to re-act to new thought and new ideas. The gas industry is in reality a *new* industry in many of its phases and can become a *young* industry by developing its ability to sense new situations and to adjust its methods and policies so as to take advantage of the ever changing considerations which affect its progress.

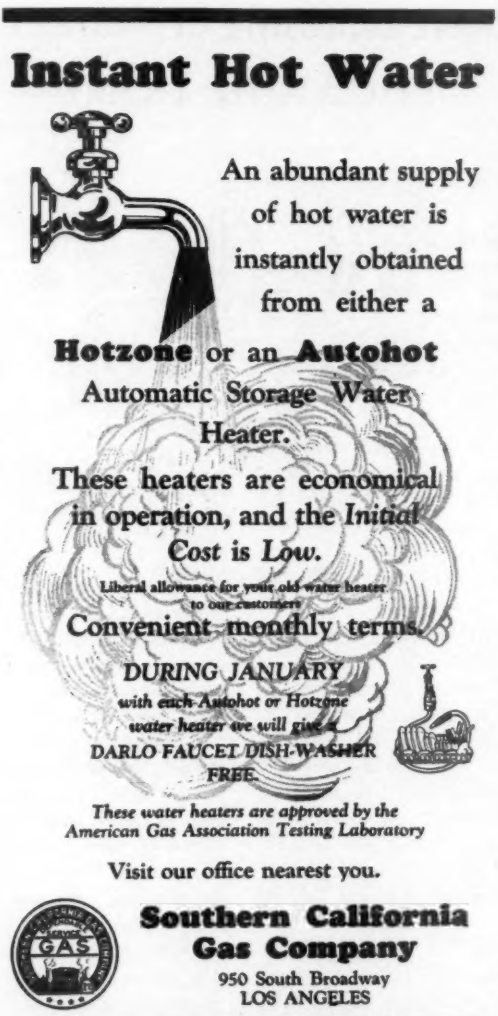
Mr. Acker is general commercial manager of the Central Hudson Gas and Electric Corp., Poughkeepsie, N. Y.

Presented at New York Regional Sales Conference, Montauk Point, Long Island, May 24.

It seems to me that the two necessary essentials in the operation of a commercial organization under present conditions are: First, the establishment of our present position through proper sales analysis, and second, the development of a selling plan which will form the basis for a forecast of the company's operations for a period of from five to ten years so that the value of the contemplated new business in the company's structure may be determined. The necessity for sales analysis as the basis for forecasting the development of any business is before us continually in the technical papers of the country. The development of the engineering and operating phases of industry to meet the conditions set up by the commercial man is demonstrated to us continually in all branches of competitive business. Even the detailed methods of selling through which our forecasts may be realized are before us continually in other branches of retail trade. So that if we will but open our eyes and observe the activities of competitive business, we cannot help but see that our own methods must change if we are to develop our own business along the

new lines which we have under discussion.

Let us consider the mass merchandising of one article of merchandise which must have a large part in the realization of any sales forecast as to future gas loads, the storage water heater. I believe, however, that any plan of selling storage water heaters must have as a background an analysis of *all* phases of the company's operation. Such an analysis should state the amount of business available in various classes at assumed competitive rates, the relationship between the various portions of the total load, and should demonstrate whether or not the new investments required to meet the growth of the load can be justified. I feel, personally, that every sales executive should insist upon carrying through such a complete analysis before attempting to sell *any portion* of the future market. Until he has done so he cannot determine the value of any particular class of new business contemplated and therefore cannot determine whether or not the expenditures estimated as necessary to attach the business are justified. I think that the effect of insufficient analysis is more often to *limit* our ideas as to the value of new business than to inflate them.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These water heaters are approved by the American Gas Association Testing Laboratory
Visit our office nearest you.
Southern California Gas Company
950 South Broadway
LOS ANGELES

This newspaper advertisement is characterized by a rather unique treatment as regards the illustration. It was responsible for many inquiries from customers

This is particularly true of new business having the characteristics of the domestic water heating load. In this connection you may be interested to know that in order to sell a storage water heater the company which I represent is spending all of the merchandise revenue received and in addition approximately $20, $10 of which goes to the salesman as a load building commission on the average size of heater sold for residential service.

My company has taken great interest in the development of cooperative selling. An analysis of our gas properties in 1928 showed that only 30 per cent of our customers had gas water heaters of any kind. This figure reflects, we think, the

experience of many other companies. Of this 30 per cent, 88 per cent were tank water heaters with an average consumption of approximately 7500 cu.ft. of gas per year. The other 12 per cent were automatic storage or instantaneous water heaters with an average consumption of 40,000 cu.ft per year. Based upon these figures and an analysis of our potential markets, a selling plan was adopted for the period 1928-1932, inclusive, designed to increase the total saturation of water heaters in our territory from 30 per cent to 50 per cent. Of this 50 per cent, 68 per cent will be storage heaters as against 12 per cent at present, and only 32 per cent tank heaters, as against the original figure of 88 per cent.

This program called for the sale of one storage water heater to every 35 customers in 1928. In 1929 it calls for the sale of one storage water heater to every ten customers and in each of the remaining three years a similar number of heaters.

With such radical increases in our sales quotas the need for a different method of selling was immediately apparent. Prior to 1928 the company sold tank water heaters and a small number of storage water heaters through its own salesmen. In the first three months of 1928 we developed a cooperative plumber activity and as a result sold during the remaining nine months of the year one storage water heater to each 35 customers, as budgeted. Approximately 18 per cent of these heaters were sold through plumbers. In 1929 to date we have sold at the rate of one storage water heater to each ten customers as budgeted and approximately 80 per cent of these heaters have been sold through plumbers. Our feeling has been that to meet the greatly increased sales opportunities which lower water heating rates and lower priced storage water heaters have created, it would be necessary to develop all of the sales outlets for storage water heaters that our territory could afford. Our sales analysis previously referred to assumed that a customer could buy all of his water heating gas at 95 cents per M. and that the average customer could install an automatic tank heater for $50. We have felt that our cooperative activities in the past have been characterized too largely by attempted stimulation through discussion and talk and too little by the presentation of concrete, business-like arrangements through which it could be clearly demonstrated to the dealer that he could benefit financially.

If we are to realize the sales possibilities which we have estimated, it will be necessary to mobilize all of the sales efforts in our territory which can be directed to the job and we feel that our new business people should be able to demonstrate their ability to produce sales through *other* outlets as well as they have demonstrated their ability to produce sales through our own selling organization. We are firm believers in action as the greatest stimulant to the successful conclusion of a matter of this kind. Progress cannot be made by endless discussion. It is necessary, as in other new fields, to test out some concrete plan and to modify it as the conditions warrant. We have developed, therefore, and put into effect over a period of two years a cooperative selling plan with the plumbers in our territory which we feel forms the basis for the successful completion of our five-year selling program.

The essentials of the plan which are not unique or original but *which have been demonstrated in our own case to have produced an immediate increase in sales over possible sales by our own organization,* are as follows:

First—Supplying water heaters to the cooperating dealer at prices at least as low and in most cases lower than he would be able to purchase them himself.

Incidental to the matter of source of supply, the dealer benefits in several ways, such as through the availability of stock in our storeroom, reduction of his own investment in stock, and elimination of the details of dealing with a distant manufacturer or jobber. It also means that the dealers are concentrating their efforts on a few makes of appliances only and in the case of an appliance such as a water heater, where the problem is to make the public hot water conscious rather than to desire any particular

make of heater, this is distinctly advantageous. This, by no means, prevents the long established dealers with a distinctive clientele from selling any make of heater they desire.

The second essential feature of the plan, which is of primary importance to its success, is a compensation plan for the salesmen engaged in this type of cooperative selling. For a number of years we have used the "three element" type of compensation plan, made up as follows:

A salary of $100 per month, plus $10 for each year of service with the company up to a maximum of $150 per month.

A merchandise commission of three per cent of the selling price.

A revenue building commission based on the estimated value of the additional load to the company. In the case of the average size of storage water heater the revenue building commission is $10.

The revenue building commission has always formed the major portion of our salesmen's compensation so that we have been enabled not only to guide their efforts along load building lines, but absolutely to control them in this regard. This fortunately has made it an easy matter to divert their efforts from direct selling to cooperative selling. Inasmuch as the merchandise commission was a relatively unimportant part of his commission, the salesman has been easily persuaded to sacrifice this to obtain more sales and consequently more revenue building commission through his dealer contacts. This has worked to his benefit because of our method of crediting dealer sales to the salesman. On direct sales made by our company without assistance of dealers, our salesman receives, in addition to his salary, his three per cent merchandise commission and his load building commission which, as stated before, is approximately $10. On dealer sales, however, he does not receive the merchandise commission, inasmuch as we sell the dealer at only a small margin over our actual cost. You will appreciate that the salesman can afford to sacrifice the three per cent, which in the case of the low priced heaters we are selling amounts to less than $2.00, in order to get an increased number of revenue building commissions of $10 each for heaters sold through the plumbers.

One of the most important features of the compensation plan is the stimulation of the salesman to build up his dealer sales. Previously our salesmen operated in exclusive territories, receiving credit for all sales of major appliances to customers in their particular territory. Under the cooperative plan the salesman is still assigned a certain number of customers and is still charged with the responsibility of proper coverage of these customers, but the basis for crediting sales has been modified as follows: Each salesman is assigned a definite number of dealers who in effect form his working group. He is responsible for the promotion of water heater sales through this group and is paid the revenue building commission on all sales made by his dealers, irrespective of location of the customer. He is also credited for all direct sales to his exclusive customers as previously.

It is obvious that the assignment of dealers to the different salesmen must be very carefully worked out and must be flexible enough to allow changes as dealers or salesmen vary in their accomplishments. But this is after all only a question of proper supervision—supervision of a higher and more interesting type than the mere driving of salesmen to secure a certain volume of sales.

The combination of commissions and assignment to dealers has resulted in our men working consistently to build dealer sales. To get certain reluctant dealers started the men found it to their own advantage to turn over some of their own direct sales to these dealers, with the result that the dealers soon fell in line and began turning over their water heater prospects to our men to close, thus in effect accepting our men as their salesmen, exactly what was desired.

These two main features of the plan, that is the carrying of the water heater stock by the company and the method of compensation, represent the essentials of the development so far. But needless to say there

(Continued on page 432)

Many Important Papers Delivered at Production Conference

MORE than four hundred engineers and chemists of the gas industry attended the successful annual Production Conference held by the Technical Section of the American Gas Association at Baltimore, Md., May 27-29. The program, arranged under the direction of the Carbonization, Chemical, and Water Gas Committees, consisted of comprehensive treatment of all the production and chemical problems facing the industry.

Charles M. Cohn, vice-president, Consolidated Gas Electric Light & Power Co., Baltimore, Md., welcomed the delegates and spoke of the trend in the gas industry to large production and large customer utilization.

The first session of the conference was devoted to the subject of water gas, and J. H. Wolfe, of Baltimore, Md., chairman of the Water Gas Committee, presided.

I. K. Peck, of Chicago, Ill., gave a summary report of the Water Gas Committee. Subjects covered by Mr. Peck included steam decomposition in water gas sets, tabulation of bituminous coals suitable for water gas use, manufacture and use of oxygen, utilization of propane and butane, test code for water gas plants, peak load production equipment, mechanical mixing of gases, new developments, and low gravity water gas.

"Observation on Gas Production" was the title of a paper by C. J. Ramsburg, of Pittsburgh, Pa. The speaker stressed the need of devoting attention to all phases of gas service and also discussed a number of interesting engineering subjects such as liquid purification, coal gas dilution, flexibility, etc.

A. H. Schaaf, of Brooklyn, N. Y., discussed the effectiveness of mechanical grates and automatic charging machines. He said that the effectiveness of these mechanical labor-saving devices is constantly increasing with the study of their operation in plants that are sufficiently equipped to carry the base.

Developments in bituminous coal operation were presented by E. L. Fischer, of Davenport, Ia.

The second session of the conference opened with a paper by S. B. Sherman, of Racine, Wis., on "The New Racine Plant of Vertical Chamber Ovens." Mr. Sherman gave a detailed description of the Racine plant and covered every phase of the subject in a most comprehensive manner.

The report of the Producer Committee was divided into three parts. C. R. Locke, of Chicago, Ill., discussed "The Effect of Saturation Temperature and Fuel Depth of Producer Gas." W. P. Ryan, of Cambridge, Mass., and F. J. Pfluke, of Rochester, N. Y., also took part in the presentation of this subject. Mr. Ryan concluded his paper as follows:

"Although the general effects of variation in such factors as air-steam ratio and fuel bed thickness are well known, the determination of the optimum conditions of operation of standard equipment fired by a characteristic fuel cannot but be of material assistance to the operator in his endeavor to secure the most desirable results for his particular plant."

Mr. Locke said that for a given fuel there are a saturation temperature and fuel bed depths which will give the most efficient results in producer operation.

Mr. Pfluke presented the following conclusions:

"The curves show clearly there is a definite saturation temperature which will give a maximum efficiency. Increasing the steam rate beyond this point or dropping below it results in a decrease in efficiency. The maximum difference in B.t.u. per pound of carbon amounts to approximately five per cent in this particular case.

"It is not necessary to carry a low saturation temperature to obtain maximum efficiency providing a deep fuel bed is maintained. A high saturation temperature will reduce clinker trouble to a minimum and aid in maintaining good fire conditions and result in better quality gas if a small fuel is used."

"The tests necessary to determine maximum efficiency are relatively simple to carry out and

it is strongly urged that every producer operator determine under his own conditions the saturation temperature which will produce the best results for him."

The second part of the Producer Committee report was on "Built-in Producers," by C. B. Glover of Philadelphia, Pa. This was a general discussion of common types on attached producers in gas works practice, together with a detailed description of the step grate type of built-in producer. Mr. Glover stated that a minimum temperature of 1800° F. and a maximum depending upon the fusion point of the ash should be maintained for efficient producer gas production.

The third part of this interesting committee report was on the new U. G. I. producer, by J. H. Haug, of Philadelphia, Pa.

Following this there was a report of the Committee on Revision of Test Code, by F. J. Pfluke of Rochester, N. Y. This Committee desires to give the industry a workable code consisting of the following:

1. Correct methods of sampling and collecting data.
2. Table of constants necessary.
3. Discussion of assumptions which must be made and probability of errors.
4. Method of calculating a complete heat balance.
5. Revised plant test run by 1926, 1927 Carbonization Committee.

C. J. Wright, of New York, N. Y., presented the report of the Committee on Low Temperature Carbonization. Mr. Wright said that the four possible economical situations where low temperature processes may give a satisfactory report on the investment are:

1. In certain localities where a free burning smokeless fuel for domestic purposes finds a ready market.
2. Where a large manufacturing plant requires a cheap gas for heating operations such as are met in glass manufacture, steel treating, automobile manufacturing, etc.
3. At mines where a company has available large supplies of non-commercial sizes of high volatile coal.
4. In combination with a steam plant.

A. R. Powell, of Kearney, N. J., presented the report of the Committee on "Disposal of Plant Wastes." This committee was organized to make a general study of methods of disposing of solid and liquid wastes. He said that the application of new processes or the improvement of operating conditions have created by-products of value from materials formerly regarded as waste. He classified waste from gas plant operation as solid waste and liquid waste.

Part of this Committee's report consisted of a report on "Dephenolization of Ammonia Liquor by the Koppers Vapor Recirculation Process," by P. J. Wilson, of Pittsburgh, Pa.

J. S. Haug, of Philadelphia, Pa., and Joseph D. Davis, of Pittsburgh, Pa., presented a discussion on the survey of gas and coke making properties of American coals. The work of the committee this year is still in progress and is consisting of the development of apparatus and producer for moderate scale testing.

The morning session on May 28th opened with a paper on "Gas Oil Specifications and Evaluations," by T. A. Mighill, of Pawtucket, R. I. Dr. Mighill has pioneered in this work and he presented a most interesting paper in which were submitted the gas oil specifications for a number of different gas companies.

The remainder of this session was devoted to "Why I Use Chemical Control." J. H. Wolfe, of Baltimore, Md., and P. H. Dashiell, of Philadelphia, Pa., presented the water gas operation side of the question. Mr. Wolfe summarized the use of chemical control at Baltimore, and Mr. Dashiell stressed the importance of proper sampling in chemical control work.

Chemical control in coal gas operation was presented by R. E. Kruger and H. M. Himsworth, of New York, N. Y. Mr. Kruger stated that the chief reason that he used chemical fuel was that gas manufacture should be classed as a chemical industry. Mr. Himsworth said that the value of the chemists will be realized more as time goes on.

Chemical control in holding company operation was discussed by L. J. Willien, of Chicago, and I. K. Peck, of Chicago. Both Mr. Willien and Mr. Peck stressed the need

(Continued on page 443)

This is the tent which was successfully heated with gas last winter in Utah

The Ideal Fuel Heats a Tent

BECAUSE the Intermountain automobile show was held in a tent, the Utah Gas and Coke Co., Salt Lake City, was called upon to solve a unique heating problem. Gas fuel was used successfully, and the result was much favorable comment and increased sales of house heating installations.

This is an interior view of the tent which was heated with gas

During February, the Automobile Show was held in Salt Lake City. This show was housed in a tent reputed to be the largest tent ever erected in the state of Utah. The dimensions were: width 100 ft.; length 420 ft.; height over all 34 ft.; height of sidewall 14 ft. The tent was, in effect, a double walled tent, as there was an inner fly of decorating material enclosing the sidewall and top of the huge enclosure. The heat insulating value of this inner decorating material was, however, very low as it was of loosely woven material.

The floor of this tent, which was an area of 42,000 sq.ft., was composed of ordinary sheathing lumber, ¾" in thickness, laid directly on the ice which covered the ground at the time the tent was erected. The area of the canvas in the sidewalls and end of the tent was in excess of 17,500 sq.ft., and the area of the top was in excess of 45,000 feet. The cubical contents of the tent were approximately 820,000 cu.ft.

It was necessary for the management of the show to maintain an average temperature of 60° F. in the tent during show hours to enable them to conform to their promises made in applying for a permit to hold the show. It was first proposed by the management to install a steam heating plant, using coal as a fuel, but after an investigation it was decided to use gas as a fuel, in individual units, due to its cleanliness, ease of regulation, ease of installation, and because the services of firemen could be dispensed with. A further advantage of the gas was the freedom from fire hazards which would have been present with coal as a fuel.

Thirty gas heatrolas were selected as the

The unit which was installed

units to supply heat for this mammoth tent. Each one of these heaters was rated at 60,000 B.t.u. hourly input with a maximum input of 75,000 B.t.u. per hour, and as these heaters were used unvented, the total heat in the gas burned was available for heating the tent. These heaters were placed at intervals of 25 ft. along each of the two aisles of the tent. This placed each row of 15 heaters approximately 20 ft. from the sidewall of the tent. Each row of heaters was served with a 2" diameter high-pressure gas line, laid directly on the ground under the floor. There was a 3" high-pressure line run to the meter header with inlet pressure of 90" to 140" and then reduced through two 2" regulators to an inlet pressure at the meter of 17" water column. This gave an outlet pressure at the meters of 16½" water column and with all the heaters burning, including besides those mentioned, three radiant fire heaters. An even pressure of 9" water column at the extreme ends of each line was maintained. The gas was metered through four meters, capable of passing 5,000 cu.ft. of gas per hour. The gas supplied was a mixed gas composed of coke oven and water gas, the average heating value of this mixed gas was 450 B.t.u. per cu.ft.

The heaters were installed and ready for operation two days before the opening of the show. The heaters were put into operation on Thursday afternoon for the purpose of taking the chill off the tent. Some of the heaters were left on all night and the temperature at the meters fell so low that the pressure regulators froze, shutting off the gas supply. It was decided to remedy this by building a wooden covering for the meters and installing a small heater to keep the meters from freezing. On Thursday afternoon considerable snow had fallen and as no heating was done during the night, a great deal of this snow had remained on top of the tent. To make matters worse, the tent poles were so placed that the water did not properly drain from the tent top, but was pocketed and ran into the tent. Friday morning found an outside temperature of 12° above zero and on this morning the dealers moved their cars into the tent, some 140 in number, so there was in the neighborhood of 300 tons of cold metal brought into the tent. In addition the melting snow from the tent top made it necessary to evaporate the water which ran onto the floor of the tent from the top of the tent. Another addition to the heating load was the cold air admitted when the cars were being moved into the tent.

There was some fear evidenced by some of the show promoters that the heaters would not be ample, so four additional units were put in place at the rear and front of the tent to give added capacity. At the start of the show, hourly temperatures were taken both inside the tent and outside. This routine was maintained throughout the entire period of the show. A check of these temperatures shows that an average of 63° was maintained inside the tent and the average outside temperature for the period was 35°. This gives an average temperature difference between inside and outside of 28°. The total gas consumed was 1,308,400 cu.ft. or a total of 588,780,000 B.t.u. or approximately 2,700,000 B.t.u. per hour was lost from the tent as a whole. Assuming that there were two air changes per hour and that the floor was at a temperature of 32° because of the ice under it all during the show, this would give a coefficient of transmission for the canvas of approximately .50 B.t.u. per sq.ft. per degree difference.

Experience with Lubrication of Mains at Grand Rapids

By H. D. STRAIGHT, G. E. LUDWIG, and W. L. SHIVELY

AT a meeting of the Committee on Dehydration of Gas held in Grand Rapids, Mich., March 8, 1929, a subcommittee was appointed to prepare a report on the experience of the Grand Rapids Gas Light Co. with oil lubrication of its distribution system in connection with the operation of the gas dehydration plant which was started September 9, 1928. This report is presented herewith. A rather complete description of the field work on oil fog lubrication in conjunction with the inception of dehydration is given not only to indicate methods which were successful, but also to describe those which appeared feasible and attractive, but which were not especially successful in practice.

IN conjunction with the starting-up of the gas dehydration plant of the Grand Rapids Gas Light Co., a program for the lubrication of the mains with an oil fog or vapor was undertaken. This work was initiated in order to anticipate and prevent troubles which might possibly arise incident to changing from the distribution of wet gas to dehydrated gas. The general aim was to substitute an oil-wet condition of the interior of the mains for the water-wet condition which existed prior to dehydration. Such an oil coating should prevent dust troubles, seal minute leaks in the main, prevent drying out of joints, alleviate naphthalene troubles, have a beneficial effect on meter leathers, and still further retard corrosion of the mains and services.

Four general schemes were used to put an oil fog or vapor in the gas. These were:

1. Saturation of the dehydrated gas with gas oil or kerosene by the oil scrubbing section of the dehydrator.

2. Mechanical entrainment of gas oil in the gas by pumping the scrubbing oil at a high rate through the sprays of the oil scrubbing section.

3. Atomization of gas oil by compressed gas in the main at the booster room.

4. Injection of oil fog in low pressure mains at governor pits.

Mr. Straight is superintendent of manufacture for the Grand Rapids Gas Light Co., Grand Rapids, Mich.

Mr. Ludwig is chief chemist for the Grand Rapids Gas Light Co., Grand Rapids, Mich.

Mr. Shively is chemical engineer for The Koppers Company, Pittsburgh, Pa.

Oil Saturation of Gas

The saturation of the dehydrated gas with oil as mentioned in (1) above was provided for in the design of the dehydration system, in that the gas, after passing through the dehydration section of the scrubber, is subjected to an oil scrubbing. Gas oil which is subsequently used for water gas manufacture is used for this purpose. This oil has a vapor pressure such that approximately one gallon per million cu.ft. is required to saturate the gas at 60° F. The oil scrubbing saturates the gas with this oil. Entering the mains, the gas is cooled and deposits oil. This system has much to recommend it, but should be supplemented by oil fog lubrication because, with a vapor system, there are apt to be irregularities of oil deposition due to intermediate cooling and reheating of the gas as it travels through the system.

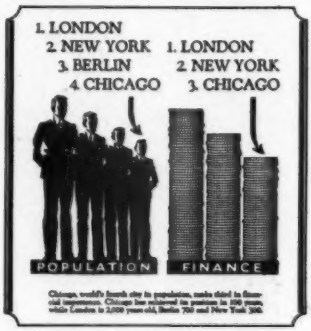
The oil saturation system permits of little or no flexibility in varying the quantity of oil which may be put into the gas. Some variation can be secured by using an oil of higher vapor pressure when it is desired to increase the quantity of oil sent out. Before starting the dehydrator, naphthalene stoppages due to old deposits in the mains were causing the distribution department considerable trouble. To alleviate this condition, furnace oil was used in place of the gas oil for a time in the oil scrubbing section of the dehydrator. This oil was a slightly higher fraction than kerosene, and was of the type sold for domestic oil heating plants. It has vapor pressure characteristics similar to naphthalene. Therefore, if the gas leaves the holder saturated with both naphthalene and furnace oil, when the former condenses in the cooler parts of the main, the furnace oil will come down with it and thus wet or dissolve the naphthalene. This prevents the

(Continued on page 418)

No. 14 of a Series on Metropolitan Chicago

— showing why Metropolitan Chicago has every possibility of becoming the world's foremost metropolitan center — in population as well as in trade importance — and that in a day relatively near. Leading authorities predict fifteen millions population for Metropolitan Chicago within a lifetime.

CHICAGO—WORLD'S FOURTH CITY IN SIZE—THIRD IN FINANCE



Chicago, world's fourth city in population, ranks third in financial importance. Chicago has achieved its position in 100 years, while London is 2,000 years old, Berlin 700 and New York 300.

CHICAGO owes much of its phenomenal rise in financial prominence to its strategic location. Situated as Chicago is—the metropolitan heart of agriculture, population and industry in this country—it was inevitable that a great concentration of funds should develop here.

Industry follows population, and money follows industry. The geographic centers of both population and industry of the United States, even now not far distant from Chicago, are steadily advancing nearer. Chicago's financial rise has been rapid — impressive — yet the real possibilities have only just begun to take shape.

Where the roads of commerce converge—water, rail and air—as they do in Chicago, population must increase; and where industry joins population, financial leadership must follow. The present is but an indication of what the future holds for Metropolitan Chicago!

This series on Metropolitan Chicago, when completed, will be issued in booklet form. Address Public Service Company of Northern Illinois, 72 W. Adams St., Chicago, and a copy will be reserved for you. There will be no charge.

PUBLIC SERVICE COMPANY
OF NORTHERN ILLINOIS

Supplying Electricity and Gas to 4,000 square miles, including the Metropolitan Area into which Chicago is growing.

*Metropolitan Chicago includes the City of Chicago and the territory within 50 to 75 miles of the Chicago City Hall.

No. 11 of a Series on Metropolitan Chicago

— showing why Metropolitan Chicago has every possibility of becoming the world's foremost metropolitan center — in population as well as in trade importance — and that in a day relatively near. Leading authorities predict fifteen millions population for Metropolitan Chicago within a lifetime.

CHICAGO'S COMMERCE WOULD PAY FOR THE PANAMA CANAL IN 11 DAYS!

ONE HUNDRED YEARS ago, in 1829, what is now the business center of Chicago was listed in as a quarter, section, land at $1.25 an acre, covering 640.00 that constituted the town's entire wealth. The total tax levy for that year was $40.00. In 1928 our assessed valuation was less than $600.

All this was one hundred years ago. Who, at that time, would have dreamed that Chicago, by 1929, would be the world's fourth largest city with residents becoming a billion dollar industry every month?

Building the Panama Canal cost the United States Government $375 million dollars. It would require only eleven days for the present Chicago to earn as much as that canal. Our yearly building industry equals the entire building activity of the next seven largest cities combined.

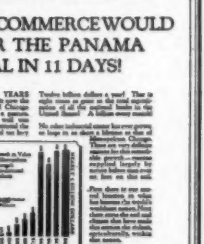
Twelve billion dollars a year! That is eight times as great as the total assessed valuation of all the personal banks in the United States! A billion every month!

No other industrial center has ever grown so large in so short a time as Metropolitan Chicago. There are very definite reasons for this remarkable growth, which are weighed largely by scores before they ever set foot on this city.

They draw to our central location, to what has become the world's workhorse market. They know we are the natural gateway for the products of the Middle West, reaching their own markets.

Then there are our vast resources of coal, iron and other materials so vital to the welfare of industry. And lastly there is the important matter of transportation which has been engineered by the great railways that historically have centered here.

Who is Civic? Who does civil have to spend the Metropolitan Chicago of today? And who, today, can expect the Metropolitan Chicago of tomorrow, ten or even five years hence?



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*Metropolitan Chicago includes the City of Chicago and the territory within 50 to 75 miles of the Chicago City Hall.

The Public Service Company of Northern Illinois is sponsoring a series of advertisements on Chicago—and incidentally on the importance of public utility service in Chicago and the Chicago district. Two of the advertisements appear here.

THE ADVERTISI

The advertisement which appears below was p
in full-page size in a suburban newspaper.
citizens who are tired of "putting the furnace t
and who is not?—found this advertisement
good ne

FOR the next 5 months your cellar will be only a place to keep the lawn mower and the garden tools, yet here is the coolest spot in the house—an ideal place to work or entertain on the hottest summer evenings, if only it wasn't for a messy looking furnace (at best), and the coal bin with its inevitable soot and ashes.

What a waste of opportunity!

Some people would say, "What unnecessary extravagance!"

Gas Service—the clean fuel that needs no storage or attention—makes it possible for you to reclaim this space and turn it into a play room, rathskeller, or any other transformation that pleases your fancy.

Automatic Heating Comfort

It means perfect automatic heating comfort during three seasons, instead of only one. Sudden cold spells in spring or fall can be met almost instantly owing to the unrivaled flexibility and speed of Gas Heat. It means easier house cleaning because there are no flying particles of soot to blow through open windows or to track into the house from the cellar.

When winter comes again, you will find many other advantages that will make the day you decided to [illegible]

Some Gas Heating Service one of the happiest and most memorable days of your life.

Lower Gas [illegible]

That [illegible] Service [illegible] heating has been materially reduced by special rates, so that the exceptional convenience is now well within the means of the average householder. Under these rates [illegible] is on a competitive basis with other fuels that

NEW YORK & QUEENS GAS [illegible]

M. H. [illegible], President

114 AMITY STREET, FLUSHING, LONG ISL[illegible]

TELEPHONE [illegible]

ERTISING EXHIBITION

s below was published
newspaper. Flushing
g the furnace to bed"—
advertisement contained

At the right is one of the pieces of advertising copy which is appearing in the trade papers as a part of the A. G. A.'s program of advertising industrial gas.

Have you put the Furnace to Bed?

Now is the time to think of modernizing your basement with gas service for house heating and water heating

nd speed of
easier house
because there
dying particles of soot to
through open windows
reach into the house from
etc.
en winter comes again, you
nd some other advan-
that will make the day you

do not offer either its direct advantages or means of continuous supply.

Customers on our House Heating Schedule enjoy the same lower rates for water heating, incineration, laundry drying, refrigeration and all other purposes for which gas is required in the modern home of today.

As a public utility, it is part of our service to give you unprejudiced information with respect to appliances needed for your heating requirements. All appliances recommended by your Gas Company have been tested and approved in our Utilization Testing Laboratory and are equipped with all modern improvements for safe and efficient operation. Our engineers and representatives are at your service at all times for estimates and other data without the slightest obligation on your part.

Install a Gas-Automatic Water Heater

While your furnace is out, install a Gas-Automatic Water Heater, and enjoy effortless water heating service in summer as well as winter. Your Gas Company will gladly install an Automatic Storage Heater in your home on free trial for one month. If you decide to keep it, you can buy on convenient monthly payments.

For Your Convenience

The coupon below entitles you to Information and Estimates on your heating requirements. Use it today without the slightest obligation.

GAS COMPANY
SPEAR, President
, FLUSHING, LONG ISLAND
-9300

NEW YORK & QUEENS GAS COMPANY M.Q.1
Gentlemen:
☐ Without obligation to me, you may send complete information on heating my house economically with gas.
☐ I am also interested in information on automatic Water Heating Service.
Name _____
Street _____
City _____ State _____

GAS

a dependable fuel supply

Today, with the network of intercommunicating gas supply lines, failure of the supply of gas is a very remote possibility. The industrial user of gas is assured of uniform-quality fuel twenty-four hours a day, three hundred and sixty-five days in the year. Can you equal that with any other fuel? ▲ ▲ ▲ ▲ ▲

AMERICAN GAS ASSOCIATION
420 Lexington Avenue, New York

If It's Done With Heat
YOU CAN DO IT BETTER WITH GAS

"Did you turn the heater on? This water isn't half hot!"

AN AUTOMATIC GAS WATER HEATER
$2 down

A lot of you men blame your wives for not having plenty of hot water on hand for your morning shaves ... yet you are really the ones at fault...

If you can't get all the hot water you need at the turn of a faucet at any hour of the day or night, don't blame the wife or maid. The fault lies with you. You're probably installed an out-of-date type of water heater from which you expect up-to-date service.

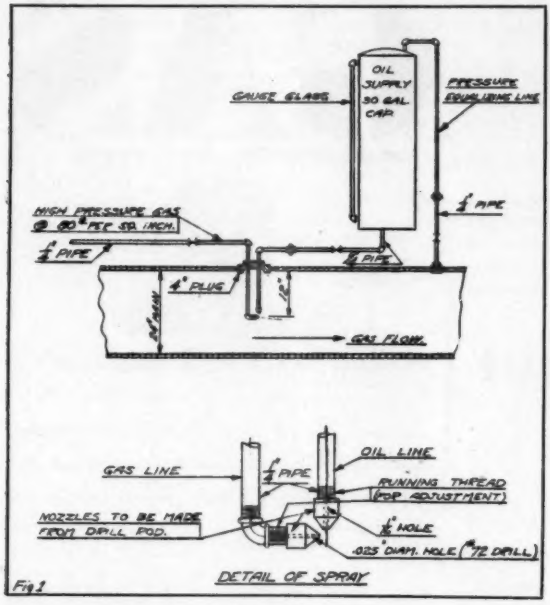
Up-to-date service is automatic service... an Automatic Gas Water Heater . . . one that provides piping hot water the instant you want it, without care or attention.

Never light a match. No watching or waiting. No forgetting to turn the heater on or off. Not with an Automatic Gas Water Heater. A tiny pilot flame and a thermostat control give you an unfailing hot water supply 24 hours each day and 365 days a year.

Hot shaves. Hot baths. Hot dishwater. Hot laundry water. Hot water for every home purpose. And all you do is turn the faucet. You're missing something in your home if you haven't got this kind of service. Come in or phone. Get all the facts.

THE GAS COMPANY
"EAGER TO SERVE"
231 Huron Street Phone Main 2111

Interesting treatment of a subject which is interesting to every customer who doesn't enjoy automatic hot water service.



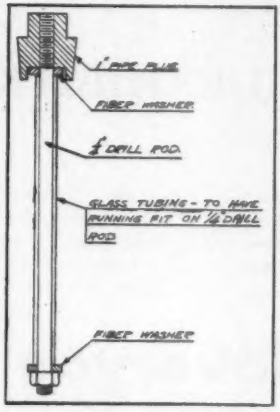


Fig. 1 (Left)—Oil spray installed in outlet main
Fig. 2 (Above)—Dust indicator

(Continued from page 415)

formation of the light, flaky, type of crystals, a small quantity of which will plug a pipe. The use of the furnace oil was successful in alleviating naphthalene complaints in this manner, and after about two weeks these were reduced to a nominal number. This oil was used for saturation of the gas for about six weeks after which time it was discontinued to avoid possible trouble with the stuffing boxes of consumers' meters. If large quantities of kerosene or furnace oil are vaporized into the gas (by heating) or their use is continued for too long a time, there is danger of dissolving the lubricant of the meter stuffing boxes, thus causing them to leak. However, the quantities of oil put into the gas by saturation at ordinary temperatures are small enough to permit of its use for considerable periods of time without danger.

Oil Entrainment Method

The attempt to entrain small droplets of oil into the gas mechanically by running the sprays of the oil scrubbing section at a higher rate than they were designed for was not especially successful. Observing the operation of these sprays before the scrubber was closed, a heavy oil mist was noted in the top of the scrubber. Also, after the scrubber was in operation there was a heavy oil fog in the "downcomer." In spite of these favorable phenomena no oil fog could be detected in the gas as it left the holder. Apparently this fog was composed of particles which, while fine to the eye, were still so coarse that all came down either in the line leading to the holder or in the holder itself. The oil which deposits in the holder is of value in maintaining the oil film on the water in the holder and will probably make unnecessary its renewal. Since no oil fog was obtained at the outlet of the holder this method was abandoned and the sprays run at their regular rate.

Oil Atomization

Since the above-described methods were not wholly successful an apparatus for atomization of oil by compressed gas was devised. This was located in the main leaving the plant and is shown on Fig. 1. This spray was of the conventional atomizer type and was mounted directly in the main. With

nozzles of the dimensions shown, the gas consumption is approximately 1 cu.ft. (free) gas per minute when a pressure of 80 pounds per sq.in. is used. This spray will work satisfactorily on pressures as low as 15 pounds per sq.in., but its capacity is somewhat diminished at the lower pressures. This spray atomized thirty gallons of gas oil per day or at the rate of five to six gallons oil per million cu.ft. of gas sent out. However, most of this oil came down a short distance from the plant and 80-90 per cent of it was recovered from drips within a radius of two blocks from the plant. This gave a practical check on the work previously done in the laboratory. The laboratory work indicated that while an atomizing type spray will give large quantities of an apparently fine fog, most of this fog consists of relatively large drops which will quickly settle and are thus of little value for oil fog lubrication. Particles which will remain suspended in the gas for, say, 20 minutes must not be larger than one micron (1/25000 inch) diameter and only a small quantity of these are formed.

Glass rods attached to pipe plugs as shown on Fig. 2 were set into the mains at the governor pits to detect the presence of oil or dust in the gas. Experiments had shown that suspended rust or oil droplets

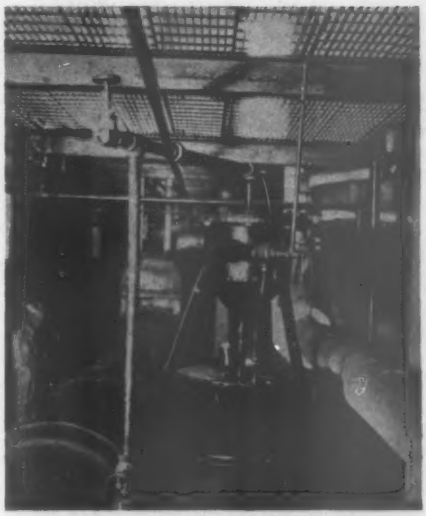


Fig. 3—Oil fog spray fitted with centrifugal separator and reservoir

carried by the gas build up on the side of the glass tubing facing the direction of gas flow and thus give an indication of their presence in the gas. The results with this spray were not especially conclusive or encouraging as judged by observations on the glass rods. Oil which could be directly attributable to the booster room spray was only found on these rods after a long time. From the practical standpoint, however, the spray was undoubtedly of value in that no dust was ever found on the rods at the governor pits, nor were any dust troubles experienced.

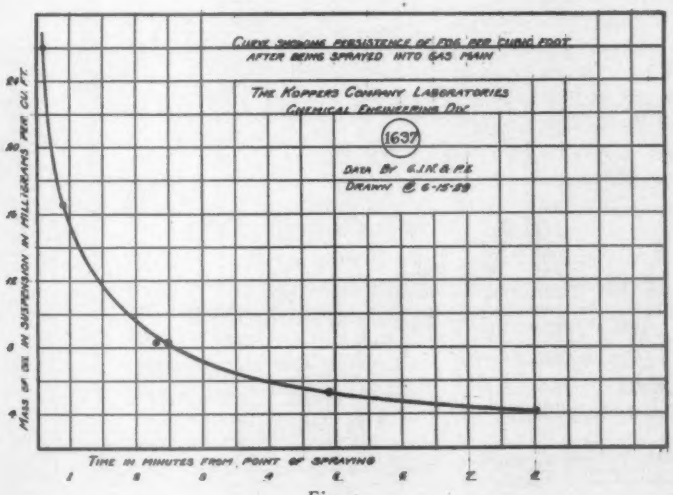

CURVE SHOWING PERSISTENCE OF FOG PER CUBIC FOOT
AFTER BEING SPRAYED INTO GAS MAIN
THE KOPPERS COMPANY LABORATORIES
CHEMICAL ENGINEERING DEPT.
1637
DATA BY G.J.M. & P.E.
DRAWN 6-15-29
MASS OF OIL IN SUSPENSION IN MILLIGRAMS PER CU. FT.
TIME IN MINUTES FROM POINT OF SPRAYING

Fig. 4

Separation of Heavier Oil Particles

In order to separate the heavy droplets which quickly settle out and hence are of little or no value for lubrication of the mains, the spray was removed from the main and fitted with a separator. This separator was of the cyclone type, the atomized oil being shot into a circular chamber tangentially. This creates a whirling mass of oil fog from which the heavier, quickly settling particles are thrown to the outside where they collect on the sides of the separator and drain back to the storage. The completed spray device is shown in Fig. 3. The cyclone separator with the conical bottom is mounted on top of a 55-gallon drum which contains the gas oil used for spraying. This drum is fitted with a gauge glass and a filling plug. The sprays are mounted in a 2" pipe which is welded to the separator. High pressure gas (from the rural distribution lines) is used for atomization and with the 1/16" diameter nozzle now used, consumes 4 cu.ft. (free) gas per minute when operating at 80 pounds per sq.in. The pressure varies from 20 to 80 pounds per sq.in. during the day. The fog is taken off the separator through a one-inch pipe at the top center of the separator and led directly into the main in the foreground. The one-inch valve in the line is for test purposes to check the operation of the spray.

Oil Fog Detection

Since the quantity of oil fog per cu.ft. is very small, its detection at various points in the system is somewhat of a problem. An ingenious and simple method for the detection of oil fog was devised by P. G. Exline of The Koppers Company Laboratories. An oil-soluble red dye such as Sudan III

(Continued on page 427)

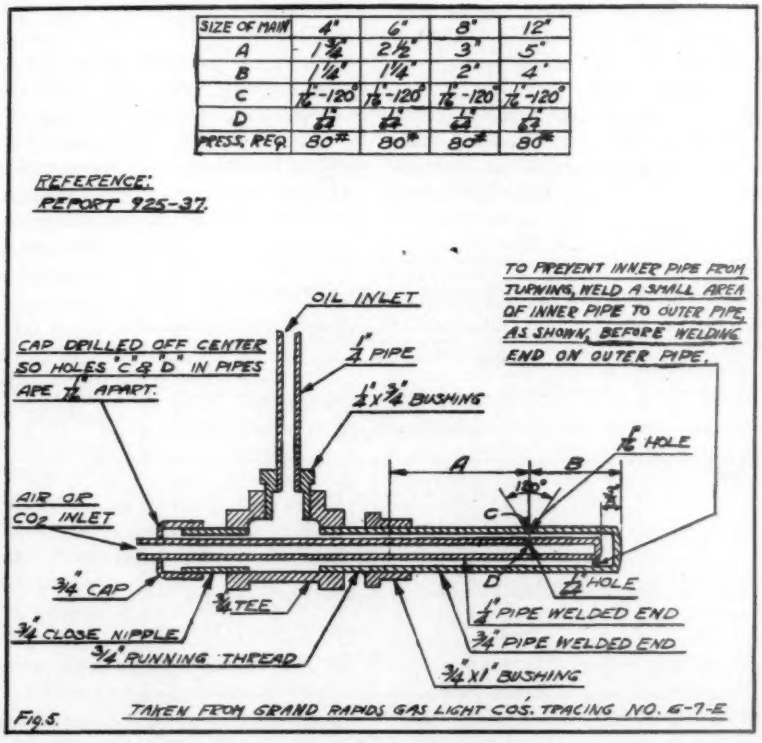


Fig. 5—Cross sectional details of oil atomizer

Various Aspects of Commercial Problems Considered at N. Y. Conference

THE sixth annual New York Regional Gas Sales Conference, sponsored by the Commercial Section of the American Gas Association, was held at Montauk Point, May 23-25, with more than one hundred and forty in attendance. Excellent entertainment features as well as a strong program covering all phases of commercial activities contributed to the success of the conference.

The Conference opened on the evening of May 23 with J. P. Hanlan, of Newark, N. J., presiding. E. L. Phillips, President of the Long Island Lighting Co., New York, N. Y., gave a short speech of welcome in which he paid tribute to the importance of salesmen and stated that "they are all potential millionaires."

The paper entitled, "Economics of Selling Gas and Gas Appliances," by Prof. Philip Cabot, of Harvard University, was presented by a representative of Harvard, due to Prof. Cabot's inability to be present. Prof. Cabot pointed out that a gas company's profits are from two sources—operation and finance. He continued as follows:

"These two sources are interconnected and the policy which aims at a high rate of profit—that is, a wide profit margin—automatically deprives the stockholders of the profits of finance which, when the opposite policy is pursued (aiming at a minimum rate of profit) are often greater than the profits of operation."

In addition, it was stated that since rapid and continuous growth is essential, it is best promoted by making prices as low as possible since the field is highly competitive and the customers are for the most part persons in moderate circumstances.

In Prof. Cabot's opinion the slow rate of growth of the gas industry was largely due to unsuitable rate structures, and he suggested that readjustment in this direction must come before sales pressure can be successfully applied. He urged that a higher type of salesman be employed and that a higher figure of selling expense is necessary. Gas company salesmen, he said, must sell a standard of living rather than gas appliances and must be trained in the details of household economics. The natural outlet for the sale of appliances is through the dealers, and gas company salesmen should be teachers and should specialize in creating gas-consciousness and in building the load on a far-sighted basis, he said. Prof. Cabot added:

"Far too much attention has been paid to attending new customers; most companies already have too many. The real problem is to get more business from the old ones, but to accomplish this a different type of sales force is needed."

Following Prof. Cabot's presentation there was a discussion of important sales policies with H. C. Davidson, of New York, N. Y., presenting the subject of "Merchandising Accounting." Mr. Davidson pointed out the importance of merchandising accounting in its relation to management and sound business policies. He said that the Joint Committee of the Commercial and the Accounting Sections is endeavoring to provide a system of accounts relating to sales activities which will reflect accurately the results of merchandising operations. The committee will also attempt to stimulate sound thinking and a better understanding of the elements involved. He recommended combining the so-called merchandising and new business expenses to ascertain the net cost of total activities.

"The Possibilities of Increasing Gas Sales by Developing Dealer Cooperation," by J. H. Van Aernam, of Albany, N. Y., followed.

Mr. Van Aernam stated that he was a firm believer in cooperative selling, and that it is the duty of the utility to do pioneer selling. He continued as follows:

"It is the duty of utility men to do pioneering selling and accrue business through the creation of the consumer acceptance of our

products. Therefore, we must assume leadership in the sale of quality appliances at established retail prices, adhering to ethical, constructive merchandising methods on a basis that will encourage the activity of all legitimate retailers. To be positive that arrangements are satisfactory, announcement to the dealers should be made before the public is advised of the fact. Elementary, but important!

"It is not only necessary for us to solicit plumber support on a like basis with us, but we must go one step farther. We must give them selling information which will assist them in making sales. Conduct schools of salesmanship, if necessary. Don't concern yourself about their knowledge of overhead, collection, and profits, but teach them how to sell the benefits of our merchandise. Because we have not done this, furnace coils and tank water heaters are being sold in greater numbers by the plumbers than automatic storage water heaters. Unless the plumber be wholeheartedly with us, he has only to fall back on the low-priced items to get the order and again defeat our purpose by putting on our lines inefficient, trouble-making equipment.

"Keep in mind that the plumber is very closely associated with our customers, and don't forget that they are his customers, too. He regards the sale made to one of those customers an infringement upon his rights. You and I know that it is merely an illusion, but this strained relation could be softened if he were accepted as an associate in business rather than a competitor. He may not be an effective force even when he is in agreement with us, but if he turns against us through a grievance or because of misjudged ill treatment, his effectiveness will be felt far beyond the loss of sales."

"The Fundamentals of Domestic Salesmen's Compensation" was presented by F. L. Hallock, of New York, N. Y. In this paper it was pointed out that the salesman is not only required to sell the appliance best suited to the customer's needs, but he must also be able to explain certain scientific methods, etc. The salesman's job, Mr. Hallock said, is three-fold: First, he acts as the representative of a company whose maximum growth depends largely on public confidence by personal service in his daily contact with the company's customers; second, he acts as a salesman of a merchandise organization existing to sell goods; third, he acts as a salesman of a manufacturer of a distinct product—gas—and he should influence the increased use of that product. For the first function, "building confidence by service," the suggested method of compensation is salary. The second function, selling appliances, calls for a commission of merchandise sales accounts. The third function, selling gas, calls for a load building bonus, recognizing the additional sale of gas and its load relations.

In concluding, Mr. Hallock said that the plan of compensation and the earning possibilities of the salesman under the plan of compensation are two important factors of effective salesmanship.

The Friday morning session opened with G. M. Karshner, of New York, N. Y., presiding.

Miss Katharine A. Fisher, director, *Good Housekeeping* Institute, New York, N. Y., presented a paper on "What Home Service Is Doing for Gas Companies." Miss Fisher pointed out that a duty of the home service worker is to show the customers how to get the most out of their appliances. She said that it is preferable to educate the customer in the many phases of home economics rather than to sell appliances or talk prices.

Following this, W. H. Tappan, of Mansfield, Ohio, spoke on "How to Hold the Domestic Cooking Business for Gas." Mr. Tappan spoke of the various influences which are at work and tend to decrease the domestic cooking business, such as the advertising of certain food products, the commercial bakery, the restaurant and delicatessen business, and the design of the modern apartment house.

Mr. Tappan stated that the gas-cooking load is desirable to utilities, and that the gas range is the good-will ambassador of the gas company. He added that a modern gas range is a load builder, not in the sense that it consumes more gas than an obsolete stove, but because the comfort, convenience, and better results cause the housewife to enjoy it and use it more often. He added that the gas range sells other appliances, and hence is the first step toward load building. He said that, in his opinion, the advent of the heat control had done more to make the use of gas popular as a domestic

(Continued on page 441)

The Monthly Tabloid—Personal and Otherwise

D. J. Collins

David J. Collins has retired as active head of the gas sales department of the U. G. I. Contracting Company division of United Engineers & Constructors Inc. and will devote most of his time to his personal interests. Mr. Collins will continue to act in a consulting capacity for the company on gas sales problems and will handle special situations for them.

For 47 years, Mr. Collins has been one of the most active and well-known figures in the gas industry.

William L. Butler has been appointed supervisor of the industrial department of the Ogden Gas Co., Utah Gas & Coke Co., and the Wasatch Gas Co., according to an announcement by L. Fitzpatrick, vice-president and general manager of the natural gas companies. Mr. Butler as a mechanical engineer has had wide experience in natural gas activities.

Miss Wagner

Miss Jane Tiffany Wagner is now acting director of the home service division of the Consolidated Gas Company of New York. Miss Wagner is a graduate of the Art Institute, Chicago, Ill., and has been working on her master's degree in household arts at Columbia University in New York.

W. Russell Greer has been made vice-president in charge of sales, service, and engineering of the Porcelain Enamel and Manufacturing Co., of Baltimore, Md.

Ray Hill has been made assistant treasurer of the company.

A. H. Thorn, manager of industrial relations of The Peoples Gas Light and Coke Co., Chicago, Ill., has been elected chairman of the Utilities Chapter of the Illinois Children's Home and Aid Society.

Due to the support of The Peoples Gas Light and Coke Company and its sister utilities in the Chicago area, the work and scope of this undertaking has become one of the far-reaching aids to unfortunate children. Mr. Thorn succeeds John J. Learned, of the Public Service Co. of Northern Illinois.

William B. Way of Pittsburgh, Pa., former secretary of the Natural Gas Association of America and of the Natural Gas Supply Men, Inc., has been selected as general manager of the International Petroleum Exposition and Congress which will be held in Tulsa, Okla., from October 5 to 12.

Mr. Way was secretary and treasurer of the Natural Gas Association of America from 1919 until 1926.

C. A. Schlegel

Carl A. Schlegel has been appointed sales manager of the gas department of the U. G. I. Construction Company division of the United Engineers & Constructors Inc.

Mr. Schlegel's entire business career has been with the U. G. I. interests where he has rounded out an experience touching all phases of the gas industry. Graduating from Stevens Institute in 1910, as mechanical engineer, he entered the engineering and construction branch of The United Gas Improvement Co. In 1915 he was made engineer and manager of the Northern Indiana Gas & Electric Co., South Bend, Ind., leaving in 1918 to enter an officers' training camp. Upon his discharge from the army at the end of the war, he returned to the U. G. I. Contracting Co. and was placed in charge of the estimating department. For the last five years he has devoted himself exclusively to sales work.

A. W. Robertson, formerly President of the Equitable Gas Co., Pittsburgh, Pa., and now chairman of the board of the Westinghouse Company, was recently elected a director of the United States Chamber of Commerce. He received the largest vote given to any candidate on the entire ticket.

C. B. Phillips has been promoted from assistant sales manager to sales manager of the Surface Combustion Co., Toledo, Ohio. He succeeds F. W. Manker, who resigns to take a position with the Great Lakes Steel Corp. as assistant to the President.

Mr. Phillips has been with the Henry L. Doherty Organization since his graduation from Purdue in 1917.

Mr. Manker in 1923 joined the Doherty organization in charge of the special furnace division of Combustion Utilities Corp. In the consolidation in 1924, he became vice-president and sales manager of the Surface Combustion Co.

Roy A. Zeigler and George H. Schlatter, who have been with the Jacksonville Gas Company, Jacksonville, Fla., have resigned. Mr. Schlatter will go with the Birmingham Gas Co., Birmingham, Ala.

Mr. Zeilger's new connection has not yet been announced.

T. W. Halloran has been appointed gas heating engineer of the New York Power and Light Corp. His office will be located at Albany. Mr. Halloran was for the past five years with the Utica Gas and Electric Co.

W. E. Saunders, who has been librarian of The United Gas Improvement Co., Philadelphia, Pa., since 1911, was retired from active service recently, after more than 28 years of service.

Howard A. Graul, who has been with the North Carolina Gas Company, Reidsville, N. C., is now connected with the Berwick Gas Company, Berwick, Pa.

David W. Beaman was elected general manager of the New Bedford Gas & Edison Light Co., New Bedford, Mass., at a recent meeting of the Board of Directors of the company.

Louis C. Smith, a vice-president of New York Power and Light Corp., and since the formation of that company in 1927 manager of its Mohawk Division, with headquarters at Gloversville, has been appointed manager of the Schenectady Division of the company, effective June 1. Victor Starzenski, whom Mr. Smith is succeeding as manager of the Schenectady Division, has been transferred.

Mr. Smith was graduated from the University of Pennsylvania in 1907, and entered the employ of Philadelphia Gas Works. He then went through the training course conducted by The United Gas Improvement Co. and was assigned to distribution work, working up through foremanships to the position of assistant superintendent of the city district.

Frank H. Knapp, for many years active in the manufacturing branch of the gas industry, with the Pittsburg Water Heater Co., and the National Refrigerating Co., is retiring from the gas industry, and is now connected with the Steel Frame House Co., a subsidiary of the McClintic-Marshal Corp., Pittsburgh, Pa.

Mr. Knapp has always shown loyal and intelligent interest in the affairs of the industry through the Association, and until his recent resignation, was a member of the American Gas Association Approval Requirements Committee.

George G. Ramsdell

Managing Director Forward: "In behalf of headquarters staff I call attention to the approaching eighty-first birthday of Mr. George G. Ramsdell on the thirtieth of this month. Mr. Ramsdell continues his remarkable record of constant daily service to the Association and sets noteworthy example of regularity and punctuality. He retains his spirit of optimism and of confidence. Due to his intelligent management of the mechanics of preparation of our Rate List, we have been enabled to reduce the cost per page to the Association from $2.21 in 1927 to $1.34 in 1929. The Staff desires to make this acknowledgment of Mr. Ramsdell's loyal cooperation and appreciation of his gentle presence among us daily."

The Board voted to include the above statement in full in the minutes, and extended its congratulations and regard for Mr. Ramsdell, with appreciation of the splendid service he has rendered to the industry and the Association.

This is to certify that the above is an extract from the Proforma Minutes of Meeting of the Executive Board of the American Gas Association, held in New York, N. Y., April 10, 1929.

Secretary.

This resolution, printed and framed, was recently presented to George G. Ramsdell, librarian of the A. G. A., by the Executive Board

Russian Visitor Calls at A. G. A. Headquarters Office

A RECENT visitor at A. G. A. Headquarters in New York was M. Shahnazarov, mechanical engineer, manager of production and utilization of natural gas, Government Oil Trust "Azneft," Bakou, U. S. S. R. Mr. Shahnazarov is seeking information on American practice with regard to laying mains, piping of houses, installation of appliances and rules and regulations governing piping and installation.

Mr. Shahnazarov plans to visit the Pacific coast on his trip to the United States to inspect the natural and oil gas situations there. His organization will have available large quantities of oil gas.

En route he plans to stop at Pittsburgh, Pa., to inspect the model home in the display rooms of the Equitable Gas Company, and to see E. J. Stephany, secretary of the Natural Gas Department of the American Gas Association. He will also make an inspection tour of the A. G. A. Testing Laboratory at Cleveland, Ohio.

Norcross Will Represent Society of Gas Lighting

J. ARNOLD NORCROSS, of New Haven, Conn., has been chosen to represent the Society of Gas Lighting at the World's Engineering Congress, to be held in Japan in November, 1929.

Affiliated Association Activities

Public Utilities Association of Virginia

THE 1929 annual meeting of the Public Utilities Association of Virginia will be held at the Chamberlin-Vanderbilt Hotel, Old Point Comfort, November 21 and 22. President A. W. Higgins has been named as chairman of the general committee in charge of the program and arrangements. Mr. Higgins has appointed the following to assist in this work:

N. E. Drexler, of Newport News; Miss E. M. Whitton; Floyd W. King, of Charlottesville; M. J. O'Connell of Alexandria, and A. B. Tunis, secretary of the Association. Mr. Drexler was appointed chairman of a sub-committee in charge of entertainment.

Mr. Higgins and his committee already are at work in shaping up a program that promises to attract widespread attention.

Southwestern Public Service Association

Knox Lee

AT a recent meeting, the governing body of the Southwestern Public Service Association made several changes in the Association's Constitution so as to permit and encourage even greater cooperation in the future than in the past with the various Associations with which it is affiliated.

Most important of these were provisions to waive separate conventions of this Association, and encourage attendance by the membership at suitable regional conventions of their craft, especially the Southwestern Division of the Natural Gas Department of the American Gas Association, and the Southwest Geographic Division of the National Electric Light Association. Provision will be made, however, to have group or sectional meetings at such times and places as will be profitable to the membership for any of the groups or sections which constitute the Association.

This Association will, as for the past 35 years, represent the interest of the gas, the electric, the street railway, and the telephone public service companies in Texas and Louisiana. In the absence of a full meeting of the Association there has been substituted an Advisory Council, to consist of one representative from each of the member companies, which shall convene from time to time for the consideration of the general affairs and policies of the Association and to elect an Executive Committee. The Executive Committee has full charge of the affairs of the Association, and elects from its number the President and three vice-presidents, and also elects the secretary and treasurer, which latter will not necessarily be members of the Executive Committee.

The officers and Executive Committee just selected for the year 1929-1930 are:

President, Knox Lee, Southwestern Gas & Electric Co., Marshall, Texas; Ist vice-president, chairman Gas Section, Frank L. Chase, Lone Star Gas Co., Dallas, Texas; 2nd vice-president, chairman Electric Section, J. W. Carpenter, Texas Power & Light Co., Dallas, Texas; 3rd vice-president, chairman Railway Section, W. B. Tuttle, San Antonio Public Service Co., San Antonio, Texas. Other members of the Executive Committee:—George H. Carter, vice-president Texas Utilities Co., Marlin, Texas; J. G. Holtzclaw, vice-president, Gulf States Utility Co., Beaumont, Texas; W. L. Prehn, general manager, Southwestern Bell Telephone Co., Dallas, Texas; Treasurer, R. G. Soper, vice-president, Dallas Gas Company, Dallas, Tex.; Secretary, E. N. Willis, Dallas.

Missouri Association of Public Utilities

T. J. Strickler

T. J. STRICKLER, vice-president and general manager of the Kansas City Gas Co., Kansas City, Mo., was elected President of the Missouri Association of Public Utilities at its recent annual convention. Other officers elected were as follows:

First vice-president, E. D. V. Dickey, Citizens Gas Co., Hannibal, Mo.; second vice-president, H. M. Patten, Union Electric Light & Power Co., St. Louis, Mo.; third vice-president, A. E. Bettis, Kansas City Power & Light Co., Kansas City, Mo.; secretary, F. D. Beardslee, Mercantile Trust Co., St. Louis, Mo.; treasurer, Herman Spoehrer, Union Electric Light & Power Co., St. Louis, Mo.

Members of the executive committe to serve two years are: L. P. Andrews, City Water Co., Sedalia, Mo.; C. A. Semrad, St. Joseph Gas Co., St. Joseph, Mo.; Sam Greenland, Public Service Co., St. Louis, Mo.; Chester Smith, Kansas City Power & Light Co., Kansas City, Mo.

Members of the executive committee to serve one year are: A. E. Reynolds, Springfield Gas & Electric Co., Springfield, Mo.; Powell Groner,

K. C. Public Service Co., Kansas City, Mo.; Herman Spoehrer, Union Electric Light & Power Co., Kansas City, Mo.; W. H. Henby, St. Louis Water Co., St. Louis, Mo.

Pennsylvania Natural Gas Men's Association

B. H. SMYERS, Jr., of The Philadephia Company, Pittsburgh, Pa., has been appointed secretary-treasurer of the Pennsylvania Natural Gas Men's Association to succeed H. A. Gager, deceased.

B. H. Smyers

Mr. Smyers has been actively identified with this Association for some time.

Wisconsin Utilities Association

H. R. Broker

AT the recent meeting of the Gas Section of the Wisconsin Utilities Association the following officers were elected:

H. R. Broker, Wisconsin Gas and Electric Co., Racine, chairman of the Section; and W. E. Kemen, Milwaukee Gas Light Co., vice-chairman.

It is interesting to note that Chairman Broker, while at the University of Wisconsin, worked under Professor Kowalke through the gas fellowship supported by this Association.

Executive Secretary John N. Cadby has announced the removal of the headquarters of the Wisconsin Utilities Association to 502 Brumder Bldg., 105 Wells Street, Milwaukee, Wis.

Colorado Utilities Association

AT a meeting of the executive committee of the Colorado Utilities Association held on May 10, the Hotel Colorado of Glenwood Springs, Colorado, was chosen as the place and September 2, 3 and 4 as the dates for the 1929 convention.

Gas Appliance Merchandising Is Published by Robbins

CONSIDERED a most important educational step by the gas industry, the new monthly magazine **Gas Appliance Merchandising** was introduced on May 1 by the Robbins Publishing Co., Inc., 9 East 38th Street, New York, N. Y., to educate gas appliance dealers in better merchandising methods.

The purpose of **Gas Appliance Merchandising** is to "create more sales of gas appliances and so increase the domestic load. Modern competition has made its publication imperative and it will perform the same sales service which alert merchandising papers are giving other industries."

More than one hundred gas companies are sending **Gas Appliance Merchandising** to a total of more than 5000 dealers all over the country, according to the publishers. Companies which are not familiar with the magazine may get sample copies free. The subscription price is $1.80 a year for each dealer.

Harold O. Andrew, editor of Gas Age-Record and **Industrial Gas**, is editor of **Gas Appliance Merchandising**, and Floyd W. Parsons, editorial director of the Robbins Publications, is contributing a merchandising feature each month. H. W. Springborn, managing editor, has had previous editorial experience along merchandising lines with Allen Business Papers, Geyer Publications, and Chain Store Review.

The cover of the June issue of Gas Appliance Merchandising

Gas Program Is Broadcast from Boston

WALKER & PRATT MANUFACTURING CO. has joined with five other manufacturers in sponsoring a new broadcast service over Station WEEI, Boston, each Wednesday and Friday. This is a syndicated program and each manufacturer joining in manufactures some household product although non-competitive with those of the other cooperators.

Miss Gretchen McMullen, home economics expert, prepares the lectures and gives the broadcast. She lectures at 10:30 a.m. on Wednesdays and 2:45 p.m. on Fridays.

Natural Gas Department

S. W. MEALS, Chairman H. C. MORRIS, Vice-Chairman
E. J. STEPHANY, Secretary

Experience with Lubrication of Mains

(Continued from page 420)

is dissolved in the oil used in the spray device in the proportions of one-half oz. of dye per gallon of oil. To test for the presence of oil fog in the gas at any given point the gas is passed through a tar camera. Presence of the oil fog is indicated by an easily discernable pink tint on the filter paper. This method can even be made quantitative by measuring the cu.ft. of gas passed through the filter paper and comparing the tint produced with calibrated standards prepared in the laboratory. In preparing the dyed oil for test it is preferable to dissolve the dye in turpentine and then to add this solution to the oil.

This spray device shown in the photograph sends out about one quart of oil as fog per day which is extremely persistent and travels to the remote parts of the system. With this modified spray, oil fog was detected at a governor pit three miles from the plant in 24 hours after starting the spraying. A filter paper was placed in a house service about three miles from the plant and a definite pink tint obtained after 800 cu.ft. of gas had passed through it. This spray is therefore considered quite satisfactory except in respect to capacity. At least one gallon of fog per million cu.ft. has been tentatively set as a desirable standard and the capacity of this spray will be increased by mounting two more sprays on the periphery of the separator 120° apart. The efficiency of separation will also be reduced by taking the fog off a little to one side of the center. It is probable that reducing the diameter of the separator to 8" or 9" would improve its action since the present separation is too effective.

By these two modifications it is hoped to bring the output of the spray up to approximately five gallons of oil per day. The great persistence of this fog compared to that formed directly in the mains is explained by the theory that, when the oil is atomized directly into the main, the heavy droplets in settling scrub out most of the fine ones. In the centrifugal separator, the time element is such that little scrubbing action takes place.

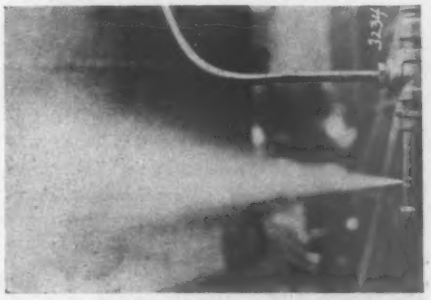


Fig. 6—Oil fog spray used at governor pits

It should be mentioned that when only a limited quantity of fog is mixed with the gas, it is quite important that the gas already be saturated with respect to the oil which is used for spraying. If this is not the case, the fine droplets will evaporate into the gas and then exist only in the vapor phase. As pointed out before, a system of lubrication employing only vapor has certain limitations.

Oil Fog Lubrication at Governor Pits

In order to supplement the spray at the booster room a program of oil fog injection at the governor pits was also undertaken. The distribution system consists of transmission mains to district governors. There are fifteen of these in the Grand Rapids system located at distances of from one to three miles from the plant. The question as to a suitable source of compressed gas for work at the governor pits was somewhat of a problem. It was not desired to tie up the heavy compressor of the street department for this work and no electrical outlets

for a small motor-driven compressor were available at the pits. Since the gas consumption was small (1 cu.ft. per minute or less) it was decided to use compressed CO_2 for this work. Cylinders containing 20 lbs. of CO_2 were used and these supplied enough gas for approximately three hours' spraying. This gas is relatively cheap and is not objectionable to mix with the gas in the mains. So small a percentage relative to the gas flowing in the main is used, that the effect on the calorific power of the gas is negligible. The spray used for this work was so constructed that it would fit a 1" threaded hole in the main. It is shown in Fig. 5 and in Fig. 6. The compressed gas enters the central tube and issues from a small hole in its side which registers with a hole in the outside tube. The oil is fed into the circular space between the inside and outside tube. At the governor pits a small drum was used as an oil reservoir and this and the CO_2 cylinder were placed on the surface outside the pit. Connections to the spray were made with 1/4" copper tubing provided with compression fittings.

With this apparatus, three gallons of oil per hour could be sprayed and one twenty-pound cylinder of CO_2 was sufficient for three hours' spraying. A given pit would be sprayed for three hours in the morning, the attendant and apparatus picked up and moved to another pit which was sprayed for a like period in the afternoon. This work was continued until three complete circuits had been made of the governor pits, when it was discontinued on account of cold weather. This spraying was undoubtedly of value in alleviating naphthalene troubles and in getting a quicker distribution of oil to all parts of the system. In order to get a quantitative idea of the amount of fog remaining in the gas at various distances from the point of spraying and of the distances that the oil fog might carry tests were made as follows:

A spray using CO_2 for atomization and fed with dyed oil was put in operation. At various distances from the point of spraying gas was taken from the house services and passed through a test meter in series with which was a tar camera. Gas was passed through the filter paper of the tar camera until the dyed oil fog in the gas had tinted the test paper to match a standard containing 4.5 mg. of the dyed oil, and the volume of gas passed noted on the meter. With these data, the quantity of fog remaining in the gas could be calculated. The quantity of oil originally sprayed in the gas was determined by readings on the oil storage tank. The velocity of the gas at the point of spraying was determined by ana-

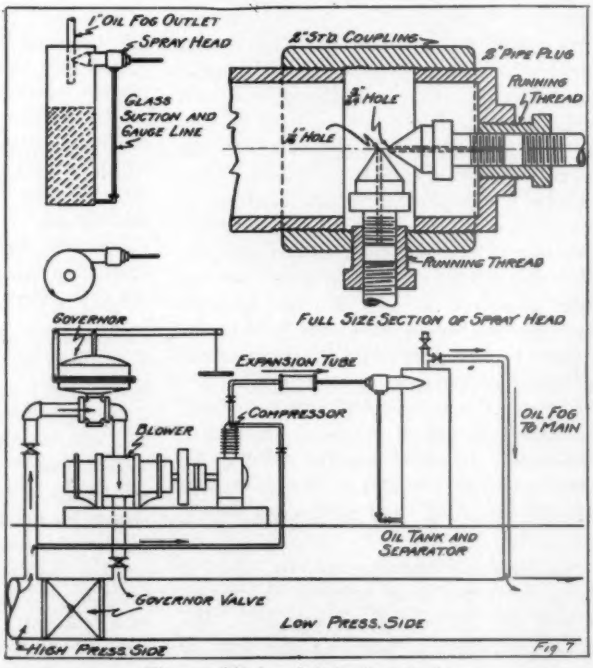


Fig. 7—Oil fog lubricating device

lyzing for CO_2 before and after the point of spraying. Since the CO_2 used for spraying was bled into the gas stream at a constant rate (by maintaining a constant pressure on the nozzle orifice) the dilution of the CO_2 was directly proportional to the quantity of gas passing the point of spraying. The results of this test were as follows:

TABULATION OF RESULTS ON OIL FOG TEST

Distance from Spray	Avg. Oil Flow	CO_2 Flow cu.ft./min.	Mg. Oil in 1 cu.ft. Gas	Cu.ft. Gas Passing Spray per min.	Mg. Oil Put into Gas per cu.ft.	% of Original Oil Remaining in Gas at Sampling Point	Velocity of Gas ft./min.
300 ft.	1.3 gal./hr.	.611	9	81.4	878	1.02	414
600 ft.	2.08 gal./hr.	.611	6	81.4	1400	.43	414
1300 ft.	2.66 gal./hr.	.611	4.5	111.0	1314	.34	564
2100 ft.	2.66 gal./hr.	.611	3.0	174.5	835	.36	889
2100 ft.	2.42 gal./hr.	.611	4.5	52.2	2540	.18	265
2800 ft.	2.42 gal./hr.	.611	3.4	63	2120	.16	321

Rate of Settling of Oil Fog

The tabulated data indicate that even as close at 300 ft. from the point of spraying only about one per cent of the oil originally sprayed into the gas remains suspended as a fog when the oil is atomized directly into the gas stream. The data further indicate that after the rapid initial settling out of the large particles, the rate of settling of the remaining fog is relatively slow. No fog was found further than 2800 ft. from the point of spraying; but this was due to a back feed of gas in the main under test. Subsequent work, as mentioned above, showed that the fine fog will travel great distances through the mains. The relationship between the oil fog remaining in the gas and elapsed time is plotted on curve, Fig. 4. If a spray fitted with a centrifugal separator is used it can be considered that the fog issuing from this device is comparable to that found in the gas at 300 ft. from the point of spraying in this test. Even this fine fog settles so that only about 16 per cent remained in the gas at 2800 ft. This test and the results plotted on the curve show therefore the difficulty in attempting to adequately lubricate a large distribution system from one spraying point. This doubtless explains the apparent failure of oil fog lubrication when used in changing systems formerly distributing wet manufactured gas over to dry natural gas. The practical implications are that oil spraying must be done from a number of points and continued over a period of time to become effective at all points in a system.

Automatic Governor Pit Spraying Device

It is not planned to pursue further the CO_2 method of spraying at the governor pits due to the high cost per pound of persistent fog. Since spraying at the governor pits is a very valuable adjunct to the spraying at the booster room, particularly from the standpoint of alleviating naphthalene complaints from old deposits in the main, the development of an automatic apparatus for this duty was undertaken by the Grand Rapids Gas Light Co. The basic principle of this device is the utilization of differential pressure existing between the high and low pressure sides of the governor to drive a small positive pressure blower which is directly connected to a small compressor. The completed device, with auxiliary equipment, is shown on Fig. 7. The blower has a displacement of .12 cu.ft. per revolution and the compressor delivers .5 cu.ft. per minute at a pressure of 30 pounds per sq.in.

The differential across the governors varies from zero to 90″ water. It was found that the unit would start with a differential pressure of 15″ water under which conditions 15 pounds pressure was delivered at the spray nozzle. To control the blower

and prevent excessive speeds at peak periods, a regulator was placed in the inlet line. This was a service regulator, modified for this duty by removing the spring and substituting a weight-loaded lever arm. This modified regulator will throw a maximum pressure of from 24" to 30" water across the blower which results in a maximum pressure of 30 pounds per sq.in. at the spray nozzle. The maximum blower speed is approximately 250 R.P.M. at which speed 30 cu.ft. per minute of gas are required. The by-passing of this small quantity of gas around the governor is of course not objectionable. The spray nozzles are shown in the detail. These are to be adjusted by hand until the best relative position is found and then locked in place by a drop of solder or brazing. A piece of 8" pipe was used for a combined separator and oil reservoir. The 2" pipe holding the spray is welded tangentially to the upper part of the pipe as shown.

Under the conditions prevailing at Grand Rapids this unit will run approximately 13 hours per day, statting whenever the pressure differential across the governors equals or exceeds 15" water. The capacity under these conditions is approximately one quart of fog per day. The device has been tested over a long period of time and found to be entirely reliable and satisfactory. The installation in the various governor pits will proceed at once.

For injection of oil fog into the gas stream at points other than governor pits, a device similar to that described for governor pit work, but driven by an electric motor (or small gasoline engine), is recommended. An electrically driven unit was considered for governor pit work, but rejected on the basis of explosion hazard and the necessity of having to provide electrical outlets at each governor pit. The governor pit device can be used at any place in the system where 15" pressure differential exists, such as at pressure boosters or where a large industrial customer is fed from an intermediate pressure main.

Recommendations for Companies Changing from Manufactured to Natural Gas

The dehydrated gas distributed at Grand Rapids has a dew-point about 5° F. below the low temperatures of the distribution system. It is therefore approximately 85 per cent saturated. Under these conditions the drying of the mains has taken place slowly and a time interval has elapsed during which the oil fog has become effective. Natural gas is ordinarily much drier than dehydrated manufactured gas. Therefore when natural gas is turned into mains formerly used to distribute wet manufactured gas they will be dried out rather rapidly. Under these circumstances the small quantities of oil fog which have proved effective at Grand Rapids might not be sufficient to prevent dust troubles. Accordingly, for natural gas at least one gallon of persistent fog per million cu.ft. of gas is recommended and an even larger quantity may be necessary during the initial period of a change-over.

A satisfactory spray for this service can be constructed on the basis of the design shown in Fig. 3 with the addition of two more sprays on the periphery of the separator as before mentioned. Further, additional capacity can be secured by bleeding into the separator gas at a slightly higher pressure than that in the main into which the fog is bled. The function of this additional gas is to dilute the fog formed and to sweep it out of the separator and into the main.

Oldest Gas Tank is Still Standing

THE first gas tank ever built is still standing at Smethwick, England, after 121 years of existence. The iron cylinder was erected in 1808 by William Murdock, founder of the manufactured gas industry, and a bronze memorial tablet was recently unveiled at Smethwick by the present gas company in his honor. Murdock died in 1839.

Coal Conference Proceedings

THE proceedings of the Second International Conference on Bituminous Coal, held November 19 to 24, 1928, at the Carnegie Institute of Technology, Pittsburgh, Pa., are now available, according to Thomas S. Baker, president of Carnegie Institute.

Accounting Section

F. H. PATTERSON, Chairman — H. W. HARTMAN, Secretary — J. L. CONOVER, Vice-Chairman

Gas Sales Increase at Record Rate

(Continued from page 393)

ers, a 3.9 increase in gas sales, and a 2.5 per cent increase in revenue.

Middle Atlantic States

Seventeen companies located in the Middle Atlantic States report for the first four months of 1929, as compared with a similar period in 1928, an increase in customers of 1.6 per cent, in gas sales of 1.1 per cent, and in revenue of 0.4 per cent.

For the month of April these 17 companies reported an increase of 1.6 per cent in customers, a 3.1 per cent decrease in gas sales, and a 3.1 per cent decrease in revenue.

East North Central States

Twenty-two of the 81 companies located in East North Central States report as follows for the first four months of 1929: An increase of 4.7 per cent in gas customers, an increase of 11.4 per cent in gas sales, and an increase of 7.8 per cent in revenue.

For the month of April, these companies show a 4.7 per cent increase in customers, a 10.5 per cent increase in gas sales, and an 8.4 per cent increase in revenue.

West North Central States

Six companies in the West North Central States registered a 2.5 per cent increase in customers, a 4.6 per cent increase in gas sales, and a 0.1 per cent decrease in revenue for the first four months.

For the month of April, 1929, these six companies report an increase of 2.5 per cent in customers, an increase of 3.4 per cent in gas sales, and a decrease of 0.5 per cent in revenue.

South Central and Mountain States

Four companies located in this section reported to the Statistical Department. (Three of these companies recently changed from manufactured to natural gas service.) The per cent increase in customers for the first four months of 1929 was 2.9, and for gas sales 48.2. Revenues decreased 7.1 per cent.

For the month of April, 1929, these four companies registered an increased in customers of 2.9 per cent, in gas sales of 59.0 per cent, and a decrease in revenues of 9.0 per cent.

South Atlantic States

Seven companies located in the South Atlantic States report for the first four months of 1929 an increase in customers of 2.1 per cent, in gas sales of 2.5 per cent, and in revenue of 1.3 per cent.

For the month of April these companies show an increase of 2.1 per cent in customers, of 0.8 per cent in gas sales, and a decrease of 0.5 per cent in revenue.

Pacific Coast States

Six companies located on the Pacific Coast report for the first quarter of 1929 a 2.8 per cent increase in customers, a 23.1 per cent

Statistical Department—American Gas Association

TABLE 2—PER CENT INCREASE IN GAS SALES (MCF) FOR APRIL, 1929, AND FOUR MONTHS ENDING APRIL, 1929, COMPARED WITH CORRESPONDING MONTH AND PERIOD OF 1928

	Domestic Only		*House Heating*		*Industrial and Commerical*		*Total Sales*	
	April	*4 Months**	*April*	*4 Months**	*April*	*4 Months**	*April*	*4 Months**
	%	%	%	%	%	%	%	%
Massachusetts	—1.2	—0.1	57.0	63.9	—4.2	—1.3	2.3	5.0
New York							—4.1	0.3
Illinois	3.9	5.9	6.9	26.7	15.4	12.4	7.4	8.5
Michigan	12.1	12.9	29.6	76.5	22.9	19.7	15.3	15.9
Wisconsin	6.8	3.5	37.4	64.4	15.4	11.0	10.1	8.0
California							23.8	24.6

*Percent increase is adjusted to allow for extra day in February, 1928.

Note: The data shown for Domestic, House Heating, and Industrial and Commercial classifications are based only on the reports of those companies actually segregating such items.

increase in gas sales, and a 15.6 per cent increase in revenue. Two of these six companies distribute natural gas.

For the month of April, 1929, these six companies show a 2.8 per cent increase in customers, a 22.2 per cent increase in gas sales, and a 17.0 per cent increase in revenue.

Benefits of Salesmen's Course Are Outlined

THE 12 benefits of the American Gas Association's Course in Domestic Gas Salesmanship have been outlined as follows:

The course has given the 3000 taking it the right SALES viewpoint by showing them how to tell the customer the things he wants to know.

It has shown them how to SALES-SLANT explanations of every appliance in a way to build up customer appreciation of gas service.

It has developed their ability to talk interestingly and convincingly about the merchandise they have to sell.

It has made it easier for them to handle difficult customers.

It has given them more confidence and poise in meeting awkward situations.

It has shown them how to handle all sorts of questions and objections constructively, and use them to turn the sale.

It has given them closing methods that work.

It has shown them how to make load-building sales that "stay sold."

It has enabled them to make that profitable "additional "sale.

It has shown where to find live leads and how to develop them into real buyers.

It has increased their sales records by helping them make larger individual sales and a larger percentage of successful sales.

It has given them a fresh interest in their work, more satisfactory relations with customers, a better spirit toward their fellow employees and the company they serve.

Mass Merchandising

(Continued from page 410)

have been numerous other points of contact and cooperation with the dealers, as for instance—group advertising, assistance to dealers in their windows and store displays, the holding of joint meetings of dealers and our distinct organizations, and the supplying of each cooperating dealer with a copy of our daily "Sales News" giving a report of sales made by our own salesmen and other dealers as well. This latter feature of our plan has done much to eliminate suspicion and distrust and has contributed materially to a better relationship in the group as a whole. We also finance the dealers' sales of all approved appliances under a cooperative plan which has been in use for several years.

One thing which we have avoided in this cooperative plan is the setting up of formal organizations of dealers or negotiation with existing organizations. All of our business has been conducted with individuals and although the provisions of the plan are open to all, we are thus free to concentrate on the most productive outlets and to develop the dealers selectively.

It may be interesting to review briefly some of the results which we have obtained to date, not as to detailed number of sales, but as to the general selling effect.

The competition of other forms of water heating which were formerly sold by the plumber and accepted by the public on his recommendation, such as coal heaters and water coils, has been almost entirely eliminated. A wider contact has been secured than could possibly have been obtained through the canvassing of our own men, as we have had opened to us all the contacts of the dealers. The removal of competition between our own men and the dealers has meant a great saving in time formerly wasted with a consequent increase in sales.

By selling a low priced heater, the dealer in many cases has been able to sell additional utilization equipment for hot water, such as shower baths, laundry tubs, etc., resulting in profit to the plumber through additional sales and to us through additional consumption. Opening the plumber's eyes to this possibility of additional business through the initial sale of a water heater has been one of the most interesting features of our cooperative work.

Better dealer relations, as a result of this plan, have been plainly indicated, and in our opinion these relations are much more permanent than any we have been able to build up in the past through other forms of cooperative effort.

Publicity and Advertising Section
E. FRANK GARDINER, Chairman JAMES M. BENNETT, Vice-Chairman

Give a Thought to Advertising

By JAY C. BARNES

SHOULD the utility industry advertise? Is the utility industry getting value received for the more than thirty millions of dollars that it spends annually for advertising? Is this more than thirty millions too little or too much to spend for advertising?

I have spent some time in trying to find out what per cent of the gross income of the industry this thirty million dollars is, and my figures indicate that it represents just slightly more than one half of one per cent.

That the utility industry should advertise is readily admitted by those who are familiar with what advertising has already accomplished. Advertising in the utility business is justified for the same reasons that justify its use in other businesses.

Increased sales mean increased production, and increased production means that the unit cost of service is reduced accordingly. The utility industry owes a duty to the public it serves—a duty to apprise them of every new development that tends to make the home a more comfortable and convenient place in which to live or which tends to speed up the wheels of industry. This duty can be discharged fully only through an extensive use of the great educational power of advertising. It is a part of the job of the utility industry to see that its business is understood by the public that uses it. Without understanding and without knowledge of the aims and purposes of the business, the public that uses our service will not understand. Good-will is based on understanding. Advertising helps our customers to understand.

The rapid growth of the utility industry and the large demands made upon it means that it must grow and expand if it is to meet these demands. In order to do this, money must be secured with which to pay for this expansion. What better method is there than to go before the people that the industry serves, with its financial problems, and through advertising tell the story of its needs and secure from the very people it serves the money necessary to take care of its expanding needs. This is one of the important branches of utility advertising and its worth has been proved many times.

This industry of ours is one of the most highly specialized in America. We employ the best engineering talent available; we seek the best financial talent the country produces; our research departments house the world's most valued technicians. I do not believe that there is an industry where more time and thought is given to the selection of its man-power than in the utility business.

Is this true of the advertising end of the business? Does the industry that spends more than thirty million dollars for advertising truly realize the great potential possibilities for growth, expansion, and good-will that lie within its grasp through adequate appropriations, and a proper application of the principles of advertising?

For years people have asked, "Why should a utility company advertise; they have no competition?" Then it has been said, "They must be spending their money with the newspapers to influence favorable editorial comment in matters pertaining to franchises and rates."

Remarks similar to these have been made generally. Those of us who are in the advertising end of the business recognize that statements such as these are false and groundless. But, on the other hand, without attempting to be critical of the efforts of my fellow workers, I must confess and I am sure that you will agree, that a close exam-

Mr. Barnes is director of public relations for the New Orleans Public Service, Inc., New Orleans, La.
Presidential address at annual convention of Public Utilities Advertising Association, Chicago, Ill., May 14.

ination of a certain amount of utility advertising would indicate that there was no real reason for it having been published. Does not poorly prepared advertising give rise to a perpetuation of the accusations that have been made against our industry, particularly when there are many people who believe that utility advertising amounts to nothing more than an effort to buy the good-will of the press and to influence its editorial policies? Does not the type of advertising I have just referred to assist our enemies in citing evidence to give strength to their statements? There are printed in the various newspapers of this country, every week, hundreds of utility advertisements which are carelessly thrown together, obviously without any real thought behind them, improperly laid out, wrong type selections, weak copy, no illustrations, or worse still, poorly done illustrations by artists without ability, and surely a discredit to the company whose name appears at the bottom. But, more important, a discredit and a weakening influence to the utility industry as a whole. Does not such advertising put into the hands of our enemies a weapon of our own making which can be and is being used to abuse and intimidate us?

Too often, I believe, the utility industry selects a man to handle its advertising who is poorly equipped for this type of work. The results secured are in direct ratio with the intelligence and the ability that are applied. Today there is available for those who will purchase, a sufficient amount of advertising talent to place the advertising of the utility industry on a plane in keeping with that attained by the other large industries. Perhaps the fault is ours. Perhaps those of us who are in the advertising end of the utility business have not been forceful enough in presenting the importance of good advertising to those who direct the policies of our respective companies. Goodwill is stock in trade to the utility industry. It is just as important as the sale of securities. Without it securities cannot be sold.

Advertising is a profession. If utility advertising is to become the highly specialized branch of this profession that it should be, the same thought, the same careful selection, the same training that is used in the development of the engineering and technical talent of the industry must be devoted to the selection and development of the industry's advertising talent.

May I not at this time make a plea for better utility advertising and the acquisition of more trained advertising talent?

The man responsible for utility advertising should be a man who knows and can write advertising copy. He should be able to analyze the problems of his company and its customers. He should be a man of ideas and ideals. He should be able to disseminate the kind of information that the company's customers should have. He should be a man who knows lay-outs, type faces, art work, and engraving. He should be familiar with the service that an advertising agency can render; he should know what an agency can do and cannot do to assist him with his problems. If the advertising manager does not know how to do all of these things, he should know where and how to purchase talent that can do them for him. For without this knowledge only unsatisfactory results can be obtained.

I believe more and more each year the chief executives of this great business of ours are realizing the importance of the scientific application of advertising to the problems of the utility industry. More money should be spent in utility advertising. More money is being spent each year, but are we spending enough? The best advertising talent available should be secured for the industry. Advertising will obtain the same results for the utility industry that it secures for the manufacturers of commodities, when properly applied.

Copies of Booklet on Smoke Nuisance Available

THE American Gas Association now has a limited number of copies of an attractive 20-page booklet on the smoke nuisance for distribution to interested members.

Henry Obermeyer, assistant to the vice-president of the Consolidated Gas Company of New York, is the author of this pamphlet. The title is "The Sky's the Limit."

Copies will be sent upon request.

Manufacturers Section

H. LEIGH WHITELAW, Chairman F. G. CURFMAN, Vice-Chairman
C. W. BERGHORN, Secretary

Annual Convention Exhibition Will Be Largest Ever Held

MORE than 75 per cent of the space available for the annual exhibit to be held in conjunction with the American Gas Association convention in Atlantic City, Oct. 14 to 18, has already been sold. Manufacturer companies totalling more than 200 have made their space reservations, and it is apparent at this writing that there will be more companies exhibiting as well as more space occupied than in any previous year.

As of June 20, the list of exhibitors and the booth numbers allotted to them are as follows:

Abendroth Bros., Port Chester, N. Y. 314, 316
A–B Stove Co., Battle Creek, Mich. 424, 426; 525, 527
Air Reduction Sales Co., New York, N. Y. 760, 762
Alpha–Lux Co., Inc., New York, N. Y... 524
American Cast Iron Pipe Co., Birmingham, Ala..... 764, 865
American Gas Furnace Co., Elizabeth, N. J. 153, 155
American Gas Journal, New York, N. Y. 631
American Gas Products Corp., New York, N. Y..... 452, 553
American Heater Corp., St. Louis, Mo. 311, 313
American Meter Co., New York, N. Y. 672-676; 773-777
American Radiator Co., New York, N. Y. 754-758
American Stove Co., St. Louis, Mo. 250-264; 351-365
Geo. M. Clark & Co. Div.
Dangler Stove Co. Div.
Direct Action Stove Co. Div.
New Process Stove Co. Div.
Quick Meal Stove Co. Div.
Reliable Stove Co. Div.
Armstrong Cork & Insulation Co., Lancaster, Pa..... 417, 419
Automatic Gas-Steam Radiator Co., Pittsburgh, Pa..... 337
Apex Electrical Mfg. Co., Cleveland, O. 163, 165

Part of the huge exhibition hall in the new auditorium at Atlantic City. Manufacturers have the opportunity to take as many booths as they need

Bailey Meter Co., Cleveland, O. 724
Barber–Greene Co., Aurora, Ill. 564
Barstow Stove Co., Providence, R. I. 134
Bartlett & Snow Co., The C. O., Cleveland, Ohio 655, 657
Bartlett Hayward Co., The, Baltimore, Md. 740-746
Beckwith Co., The, Dowagiac, Mich. 206, 307
Bernitz Furnace Appliance Co., Boston, Mass. 626
Bingham & Taylor Co., Buffalo, N. Y. 716
B–Line Boiler Co., Cleveland, O. 475, 477
Blodgett Co., The G. S., Burlington, Vt. .. 310
Boone County Coal Corp., Philadelphia, Pa. 850
Bristol Co., The, Waterbury, Conn. .. 851, 853
Bryan Steam Corp., Peru, Ind. 340, 342
Bryant Heater & Mfg. Co., The, Cleveland, Ohio 561-565
Burgess Parr Co., Moline, Ill. 721
Burroughs Adding Machine Co., Detroit, Mich. 600-606; 701-707
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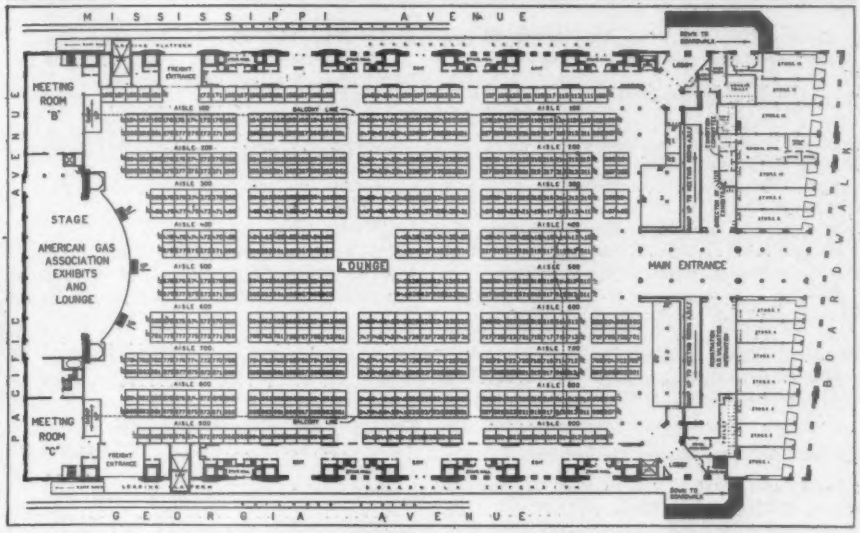

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Industrial Gas Section

J. P. LEINROTH, Chairman C. W. BERGHORN, Secretary C. C. KRAUSSE, Vice-Chairman

Making and Using An Industrial Survey

BY H. A. SUTTON

THE making and using of an industrial survey is an important factor in the economical, safe and sure method of selling gas as an industrial fuel. Let us get clearly what we mean by a survey. First of all we do not mean any such survey as was to be made by an industrial engineer who once said, "Give me three hours in your city and an automobile and I'll tell you how much gas you can sell." We do mean a complete and systematic canvass of every industry located in our territory and the collection of certain facts about each industry.

A prominent man for many years directly connected with the problems facing the industrial fuel department of the gas company once said:

"Experience has developed in my mind two principles which are fundamental to my present conception of the proper function of the gas industry in the industrial world. These two principles are the foundation of the industrial survey as a necessary detail of procedure in the execution of that function. The first principle is that the gas company should render a heating service to industry and should, therefore, advise industry how it can secure the heat that it uses economically regardless of the fuel used. The second principle is that that heating service can only be supplied as the gas company has complete data on the utilization of fuel as a detail of production process and can discuss with management that utilization in terms of the cost of the finished product."

Here in a nutshell we have all the reasons why the survey must not be made haphazardly but rather that it must be made with a great deal of care and exactness. In order to tell how this is done let us use the methods of a gas company which has made a survey. While we may not all agree that theirs is the best way, we must admit that if satisfactory results were obtained then their procedure must have some merit.

This company has maintained an industrial department for many years. It is located in a state where the industrial growth has been steady though not exceedingly rapid. Within its territory centers for certain products are located and in addition some of its cities produce highly diversified products. It is surely an ideal territory for the sale of gas. During the many years, however, which this company operated without a survey no one knew truthfully whether or not the increase in sales were commensurate with the potential of the territory or not. This along with other factors prompted the making of the survey.

Their procedure was as follows: The survey plan was explained to all industrial fuel representatives and the importance of their part in its success stressed. The value of any data is dependent on its accuracy and completeness and unless the man who is collecting the information requested is sincere in his efforts to get it completely and accurately, the results are not worth the efforts.

To facilitate the work of the men in the field, questionnaires were printed. These questionnaires asked for certain specific information.

Further to aid the men in the field, sheets were prepared listing the information to be obtained on a given heating operation in a given plant.

In addition the men were also supplied with sheets listing the specific data required for each general class of operation.

As the surveys were completed, they were sent in to the general office of the company where they were analyzed. This analysis consisted of the following operations:

Mr. Sutton is with The Public Service Electric and Gas Co., Newark, N. J.

Presented at recent meeting of N. Y. Metropolitan Industrial Gas Sales Council.

1. Determining as closely as possible the present cost of each heating operation, not only as to fuel but as to labor, production, spoilage, and maintenance.

2. From the files of the research institute of the Combustion Utilities Corp. cost data on similar operations using the best gas utilization practice were taken. These costs were then compared with existing costs and the estimated monthly consumption and rate required was deduced. These rates took into consideration tangible cost only, the intangible advantages of gas such as cleanliness, improved working conditions, continuity of supply, etc., could not be brought out in the analysis as each job requires personal observation and while they have a bearing on total costs the computing of their exact monetary value is practically impossible. Every industrial gas salesman knows, however, that the customer is willing to pay an additional amount over and above net costs. It is in the handling of these intangible costs that the industrial man displays his ability to sell.

3. A permanent record was then compiled including all the results obtained through the analysis of the survey sheets. These results consist of tables showing present industrial load in each district, load available at existing rates, percentage of existing market sold, available load at existing rates and at rates down to 10¢ per thousand in blocks of 10¢ and the percentage of present load to the total available at each block. It might be interesting to mention here that the present load represented only about 3½ per cent of the total available at the low step of 10¢ per thousand but that it represents nearly 80 per cent of the total available at existing rates. This record also contains charts showing results graphically.

Now the survey was completed and the results of the analysis neatly compiled in a permanent record. It was a good job and those responsible merited congratulations, but their work would have been of no avail if it could not be used to benefit the company. This brings us to using the survey.

The uses for the survey were classified as follows:

1. To determine the potential gas load and the rates necessary to establish to obtain this load.

2. To determine each district's potential so that (a) Man power could be properly distributed, (b) Proper supervision and direction of the field representative's effort could be made from the general office.

3. To determine the character of the potential so that research by their own industrial department and the American Gas Association could be made most profitable.

4. To classify potential load so that class advertising could be properly distributed.

5. To determine which business was available under existing conditions so that efforts could be concentrated in the most fruitful fields.

6. To determine whether or not detailed surveys or cost studies were advisable at various plants.

In the light of these uses the following conclusions were clearly shown:

1. The amount of their competitive fuel market was tremendous and inasmuch as they had at present only 3½ per cent of it, it was obvious that gas for industrial uses had barely scratched the surface.

2. That a great part of this market became available at such low rates that in light of the present gas manufacturing costs and practices, they could not hope to obtain it. It must be borne in mind, however, that their analysis was made on the basis of present competitive fuel prices and any increase in them would make the business available at a higher rate. Their figures must also be studied in the light of future industrial changes. There is every indication that specifications are becoming more and more rigid and that this tendency will eliminate fuels and processes which are not susceptible to close control with regard both to temperature and furnace atmosphere. There is also a movement to substitute continuous, automatically controlled equipment for manually handled, "in and out" equipment. These two tendencies are gradually changing the entire aspect of the industrial heating problem and are unquestionbly reacting in favor of gas.

3. That as they stood they were confronted with a market which at their present rates was 77.7 per cent sold. Their biggest job then was to hold their present load and induce their customers to use their gas as efficiently as possible in addition to concentrating efforts on obtaining the other 22.3 per cent of business available on their present rate. Now it might seem contrary to good business principles to spend time and money making a survey which when analyzed showed that much time must be spent reducing the consumption of gas in many of their customers' plants. However, if we are really honest with ourselves we must admit that gas is often used in open violation of even the most elementary principles of efficient process heating and that conditions such as these are anything but a recommendation for the use of gas on a larger scale.

4. When a classification was made to determine the potential market in terms of specific

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Commercial Section

G. M. KARSHNER, Chairman — J. W. WEST, Jr., Secretary — G. E. WHITWELL, Vice-Chairman

Commercial Problems Considered at Conference

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fuel than any invention since the gas range itself. The insulated oven and the value of home service were also considered by Mr. Tappan, and in concluding he made a plea for constant gas range activity, proper mark-up, and cooperation with dealers.

Oliver Washer, of Summit, N. J., discussed this subject, and stressed the value of home service work.

R. L. Hallock, of Brooklyn, N. Y., presented a paper on "Selling Gas Refrigeration," in which he said that no other gas appliance has created such general interest on the part of customers in so short a time. He said that the experience of The Brooklyn Union Gas Co. indicates that the most favorable prospects are secured from satisfied customers, and, for this reason, salesmen continually keep in contact with present users. Monthly sales quotas are established for each retail district, and the retail salesmen are compensated with a daily service credit for service work which is not of a selling nature. In addition, they receive a commission on all sales made by them, plus a premium per refrigerator per annum.

In concluding, Mr. Hallock spoke as follows:

"Many automatic refrigerators have been sold. It is difficult to say where the saturation point will be. But we are safe in assuming that it is so far distant that we need not give it any consideration at this stage of our efforts. We do know that there is a greater desire every day on the part of our customers for automatic refrigeration, and we also know that our competitors will make every possible effort to secure this business."

E. J. Devlin, of Brooklyn, N. Y., spoke on "Why the Gas Industry Needs a Refrigerator Load." This paper was written to indicate the effect of the refrigeration load on load factor. Mr. Devlin pointed out the wonderful possibilities to be derived from refrigeration as a means of increasing sales without materially increasing the investment in distribution system. The load makes it possible to sell six per cent more gas through the existing system with a possible necessary increase in distribution facilities of only three per cent. He said that the character of this load is inviting to the gas company.

If a saturation point of 10 per cent is reached, Mr. Devlin said, even though a higher saturation were never reached, each refrigerator added to the lines adds only very slightly to the peak hour and tends to improve the daily load factor. He gave a study of an account of a convenience customer before and after the gas refrigerator installation. The load factor was increased from 20 per cent to 29.2 per cent, and the average monthly consumption from 1800 cu.ft. to 3600 cu.ft.

Alexander Forward, managing director of the American Gas Association, opened the third session of the Conference, held during the evening of May 24. Major Forward pointed out the importance and necessity of dealer cooperation in the sale of gas appliances.

Following this, E. R. Acker, of Poughkeepsie, N. Y., presented a paper, "The Mass Market for Water Heater Sales," which is published in this issue of the MONTHLY.

"The Importance of Market Analysis in the Sale of Water Heaters," by Joseph J. Genthner of Cleveland, O., was the next subject for consideration by the conference. Mr. Genthner emphasized the necessity for keeping in step with the constantly changing conditions of the present-day market. He said:

"The water heater stands in a class by itself as the one appliance that directly administers to every member of the family for their individual needs while meeting innumerable collective needs of the entire family."

In concluding, he said:

"Automatic gas water heaters are the most profitable appliance the gas company can attach to its meters. A high-grade automatic water heater supplying the needs of the family 24 hours every day of every month, never out, always ready to serve, gives the consumer the service satisfaction that creates for the gas company good will and satisfied customers. It does more. The automatic gas water heater builds the meter load and retains the meter load. The value of a load building appliance is multiplied when that appliance retains the meter load. The automatic water heater stands foremost among the gas appliances in this respect. Public favor, consumer satisfaction, customer service are invaluable to the gas company. The gas industry is entering its most competitive era. As this competition increases, it challenges the sales and marketing ability of the industry. Only the best and most efficient appliances will meet this need and expand the market. Remember this—that gas as gas is not wanted in a home—only that gas administers to the family need in convenience and comfort is it marketable. The instrument through which gas becomes marketable is the appliance."

F. J. Gruel, of Mt. Vernon, N. Y., presented a study of "The Market for Gas Sales in the Home Laundry." This was a carefully prepared discussion of the potentialities that the home laundry offers in regard to increased gas consumption.

J. P. Hanlan, of Newark, N. J., presided at the session held the morning of May 25. "What New England Has Done in House Heating" was the title of the first paper, presented by J. J. McKearin, of Lowell, Mass. Mr. McKearin told of what various companies have done in New England.

Mr. McKearin said that one factor seemed to head the list of several contributing causes for setting a house heating record, and this factor is the early recognition of the possibilities of the house heating market and the rapid establishment of a rate to make the selling of this market a possibility. He also stressed the necessity for establishing a competent house heating department to specialize on sales and service. The next important step is the organization of a trained jobbing crew to install and service gas fired boilers. He continued as follows:

"The establishment of the district representative system in Haverhill in 1924 had a very material effect on house-heating sales. The district representatives provide a logical means for obtaining house heating prospects and our experiences of the last few years are rapidly reducing the selling of gas for house heating to a matter of prospects.

"I believe the present ratio for an average company is 15-5-1, or out of every fifteen prospects, five consent to have their homes measured and out of the five measurements one is sold."

Mr. McKearin stressed particularly the necessity for cooperating with the local plumbing and heating contractors, and explained in detail what his company had done. The speaker also considered conversion burners, and gave statistics showing the number of burners which have been installed.

In concluding he said:

"The present situation in Haverhill, Lowell, Blackstone Valley, Fall River and all New England presents a very optimistic outlook for this type of business, and whereas we were very reluctant in 1923 to suggest that many of our customers install gas house heating equipment, our slogan from now on is to be 'If you can afford to run an automobile, you can afford to heat your home with Gas' and between regular gas-fired boilers and conversion units, we confidently expect that our estimates of 1923 will look conservative indeed in face of the actual sales by the New England gas companies during the coming years."

"Building the Load with Fireplace Heaters" was the title of an address by Richard F. Cleary, of Newark, N. J. Mr. Cleary stressed the necessity of the space heating load, and suggested that it would be more resultful to sell space heating from the point of view of attractiveness, beauty, and luxury, rather than that of utility.

Louis Stotz, of Ampere, N. J., presented a paper on "The Value of the Gas-Fired Incinerator Business to the Gas Company." He stressed the sales advantages of gas incinerators, and advanced the more important arguments in their favor. He said that the incinerator is one of the domestic load builders which is practically all off-peak business.

A paper entitled, "Future Sales Possibilities in the Metropolitan District," by C. E. Paige, of Brooklyn, N. Y., was read by P. B. Wiske.

Technical Section

HARRY E. BATES, Chairman — B. V. PFEIFFER, Vice-Chairman

H. W. HARTMAN, Secretary

Important Papers Delivered at Production Conference

(Continued from page 412)

of chemical control in the industry and the value of a control laboratory for such situations.

P. Nichols of Pittsburgh, Pa., presented a very valuable paper on "Recent Progress in Correlating Coal Ash at Fusing Temperature and Clinkering Properties."

H. S. Vassar, of Newark, N. J., discussed the need for a relatively and inexpensive method for determining the fusion temperature of coal ash in his paper on "The De-Graaf Apparatus for Determining Ash Fusing Temperatures."

The afternoon session of the 28th opened with a paper on the utilization of propane and butane, by P. E. Eddy, of Chicago, Ill.

Following this was the progress report of the sub-committee on "Steam Decomposition in Water Gas Sets," by A. E. Lockwood, of New York, N. Y. Mr. Lockwood outlined the work of the committee and told of the developments now under way for the determination of the condition of the fire in the generator. R. L. Ellis, of Miami, Fla., presented a report on this subject also.

"Low Gravity Water Gas" was the title of a report given by E. L. Hall, of Philadelphia, Pa. This consisted of abstracts on producing low gravity water gas as well as a report on the utilization of refinery oil gas and other high B.t.u. gas.

The morning session on May 29th was devoted exclusively to a symposium on coke. Paul Ryan, American Gas Association statistician, gave some interesting coke statistics showing the trend from water gas to coal and coke oven gas.

James E. Cooper, of Utica, N. Y., presented a technical paper on "Coke Preparation, Improvements in Equipment and Methods." The paper by J. Frank Jones, of Battle Creek, Mich., on "Developing the Coke Market in Battle Creek," was printed in the June issue of the MONTHLY. V. A. Miller, of Rochester, N. Y., discussed the coke question from the angle of uniform rate of coke deliveries. Mr. Miller stated that the producer should first decide what the uniform rate of delivery is worth in terms of storage and service, and then formulate a sales plant which will accomplish the desired effect.

C. A. Lunn, of New York, N. Y., and J. E. Urquahart, of New York, N. Y., presented the report on coke specifications.

The final session of the conference was devoted to chemical committee subjects, with "Boiler Water Conditioning in the Gas Plant," by S. T. Powell of Baltimore, Md., as the first item. Mr. Powell asked for a study of the control of feed water assessments.

"A two-foot and a five-foot shelf of books for the gas plant laboratory" was the title of an interesting paper by C. D. Ulmer, of Pittsburgh, Pa. Mr. Ulmer stressed the importance of books and gave two lists, the first containing 19 books costing $94.30, and the second 45 books costing $231.85. Following this there was a discussion of the 3rd edition of the *Gas Chemists Handbook*, led by A. F. Kunberger.

A very interesting report which created considerable discussion was presented by A. R. Powell, of Kearney, N. J., on "Thesis Subjects Relating to the Gas Industry."

Four different types of sampler were illustrated, described, and compared by W. L. Kohlman, of New York, N. Y., in a paper on "Automatic Sampling of Coal Tar."

B. Dunglinson, of Chicago, Ill., and J. M. Gonder, of Pittsburgh, Pa., then gave a paper on "Oxide Purification."

The last subject on the program was an open forum on "Laboratory Technique," led by F. W. Sperr, Jr., of Pittsburgh, Pa. Dr. Sperr was followed by Arthur Schroder, of Pittsburgh, Pa., who presented a paper on "New Laboratory Apparatus for Gas Works Control."

Industrial Gas Survey

(Continued from page 440)

application, they found that the most fertile fields to cultivate under their present conditions of prices, rate, and methods of manufacture were with regard to size of available load as follows: Brass melting, bread baking, ferrous hardening and tempering, varnish boiling, forging, other non-ferrous melting, core baking, ferrous annealing, galvanizing, annealing of other metals, and meat smoking. It was clear that special efforts should be expended along these lines and it is significant that the American Gas Association research program was at that time carrying on intensive work in five of the above mentioned fields. This company will without doubt gain much from this research and will be in a position to act as soon as developments reach the point where they can be interpreted in terms of more efficient equipment thus bringing certain jobs within the range of the rates now in existence.

5. The analysis of the survey was also used to determine the distribution of man power. In certain districts they found that it was evident, on the facts brought out by the survey, that more men could be used, while from all other observations it seemed as though the present staff was sufficient. Determining how many men are necessary is a difficult job with all the information possible at hand and must be carefully studied on the basis of the territory to be served. It is quite likely that many men in this room are either covering too much territory or not enough.

The company in which this survey was made is now working on their problems in a systematic and intelligent procedure. They are no longer groping in the dark and wasting much effort which they might otherwise have done had they not had the facts which only a complete survey brought out. They are better able to render that "heating service" which is the fundamental of all industrial divisions and they can see more clearly what lies before them.

Let us see how the man in the field benefits by such a survey. Personally I think the benefits may be listed as follows:

1. It serves as a guide in directing their efforts in that they know what business to go after with the least possible lost motion.

2. It serves to give them a more complete understanding of their customers' processes.

3. It shows them the importance of fuel costs in particular processes.

4. It makes them better conversant with factory economics.

5. It serves to impress them with the value of detailed investigation as a basis for putting facts clearly before his prospect.

In closing I should like to ask these questions:

How can any industrial department be developed on an intelligent basis unless a complete survey has been made? How do they know whether or not their efforts are being spent in the right direction, whether or not they are getting the business which they should, and whether or not their existing rates are prohibitive or conducive to such business as should be theirs? How can any industrial man properly apply his industrial efforts to get the most out of his job both for himself and for his company if he has nothing with which to guide him?

It has not been the purpose of this paper to sell surveys but rather to give some idea as to how one is made and the uses to which it is put. I believe that a study will reveal its merits to everyone.

W. H. Gartley Receives the Clark Medal

W. H. GARTLEY, vice-president, The Philadelphia Gas Works Co., Philadelphia, Pa., was presented with the Walton Clark medal on May 15 at special ceremonies held by the Franklin Institute.

Mr. Gartley was awarded the Walton Clark medal, "in consideration of his engineering contributions to the advancement of the gas industry, to the development of the practical operation of large city gas works, and for his ingenuity, sound judgment and service to the public in his field of work."

The Walton Clark medal was endowed in 1926 by The United Gas Improvement Company in honor of Dr. Walton Clark, for many years a vice-president and later consulting engineer of the company, to be awarded to one person each year by The Franklin Institute for original and notable work in the gas industry, or in case the Institute decided that no one in the gas industry was eligible for the award in any year, it might be made for original and notable work in any of the mechanic arts.

Dr. Clark was awarded the first medal in 1926.

What the Public Expects

(Continued from page 404)

occasional bottle of milk that is not as sweet as it might be. In fact, the delivery of a bottle of sour milk is not without the realm of possibilities, and although our household operations have been interfered with, we are usually willing to overlook the incident and even go to the extent of making an excuse for the milkman; but repetitions of this kind of service usually result not only in complaint but in changing to a new source of supply.

In the case of the gas supply company, however, there is usually, as should be the case, not more than one company to choose from, and its service should be as free from fault as it is possible to make it, for the customer cannot satisfy his displeasure by changing to another source of supply, so his only relief is to give vent to his feelings, through complaint not necessarily confined to the office of the company, but broadcast to his friends and often to whomever else will interest himself.

I believe, in the case of natural gas distributing companies depending upon long transmission lines for their supply of gas, that these companies can well afford to make clear to as large a number of their customers as will interest themselves, to read or listen to a story of gas compression and transmission and thereby gain the idea that there is something more than just a hole in the ground somewhere, out of which gas pours at little or no cost, and then a pipe line from the hole to the place where the gas is to be used.

There are costs involved and difficulties encountered of which our customers as a rule have no conception and about which many care little. Nevertheless, information of this kind does no harm, as I see it, and will be of assistance in case explanations are necessary to be made. The film prepared several years ago by the Natural Gas Association conveys, very effectively, the information I have in mind.

We continually read the opinions, in many cases of those in whom we have much confidence, and they state that public utility companies advertise entirely too little and that we spend but a fraction of the percentage of gross income in advertising that other industries find it desirable to do. It is by no means my purpose to question these opinions for I am inclined to believe they are correct within limits. Nor am I prepared to submit an outline covering the scope or nature of advertising that we, as public utility operators, should engage in. We conduct a business that is very different from most other business, and it is highly competitive, although not looked upon as being so by most of our customers. But in the final analysis we have a service to sell to those who will buy what we have to offer, and this to a large extent is what department stores and drug stores are doing, and they certainly advertise.

It is my belief that if we have been wrong and have not been carrying sufficient publicity or advertising, it is not because we have not wanted or did not need business, but because we know of no better advertising to make use of. It probably behooves someone to come forward with a line of advertising that can be made use of and produce results, for there is no reason why we should advertise blindly and needlessly just for the sake of occupying space in the papers. I hope that more effective publicity might be available. The public likewise will be interested.

We frequently make use of publicity designed entirely to inform the public with respect to our business and to build up or maintain proper relations within our communities, but unless good service is being rendered to our customers, the cost of such publicity might better be saved.

So-called institutional publicity has been made much use of during recent past years but I fear in some cases has been prepared by those quite unfamiliar with the gas business itself and equally uninformed concerning local conditions in the community and of the utility company involved. As a result, publicity has at times seemed to me as being

somewhat flamboyant and overdone, producing more harm than good for the company. I feel that unless publicity of the gas business is handled or censored by those thoroughly familiar with the utility business, it can easily do much harm. Aside from this, it must be conducted not only along truthful lines, backed up by real service and a compliance on the part of the utility with all its public obligations, but it must have a message other than the mere desire to increase earnings.

Attractive advertising has been made use of, featuring the public utility as an asset to the community it serves, reducing drudgery to the housewife, modifying some of the objectionable features of the family ice box, making the home more attractive and reducing the care of a heating plant to a joy and a pleasure. Although these be facts, they are presented to deaf ears and accomplish but a minimum of good when the service rendered is defective. So, first of all, our service must be good.

We have taught the public to expect good service and whether it costs little or much, our customers will not remain satisfied with anything but good service, and by good service I include everything that we as public utility operators understand to be necessary details in a well operated property.

Each department of our operating organization depends to a certain extent on another department. Unless these various departments are working harmoniously together, we cannot expect that our company is functioning properly with the customer, and certainly sooner or later this will promote dissatisfaction in the minds of certain of our customers. As an example of a simple case of lack of coordination, but one that always produces unfavorable comment and criticism, is the case of the customer for whom we insisted upon making use of an improper address. The customer goes through the regular routine of complaint and it finally comes to light that he has probably telephoned, written, and made a personal call or two for the express purpose of correcting an improper address. For some unknown reason, in cases of this kind, it seems that the change in the addressograph plate is not made until the customer has become thoroughly disgusted and is not only convinced that the company is operating inefficiently but is broadcasting his experience to his friends. In reality, he should have experienced no inconvenience whatever after he first made known the error, but for some reason, the system for carrying through this simple change was not properly developed.

Errors of this kind are not confined entirely to our business, but this should be no consolation. Numerous examples might be cited, but this is unnecessary inasmuch as we are all familiar with the aggravating incidents that occasionally bring about criticism from our customers.

We can reduce complaints and criticism by providing proper office facilities in which customers may transact their business; by having competent, well-informed and courteous employees to discuss matters raised by our customers; by eliminating unreasonable rules and regulations; by simplifying office procedure and operating methods so that customers' requests may be executed promptly and satisfactorily; by paying close attention to correspondence with our customers; by adopting a credit policy which is in accord with modern business practices; and by making sure that telephone conversations carried on between employees and customers are as they should be, for the telephone can be a very productive source of ill will.

Thus far I have said little on my subject of what the public expects of the gas industry, but have confined myself to some of the details of operation, with which the operating officers of the gas distributing company are confronted. I might say that high grade service, at reasonable rates and a modest and truthful statement of our case to the public, will win in the end, inasmuch as these are the things the public expects of our industry.

Boston Issues Booklet on Smoke Abatement

THE Boston Consolidated Gas Co., Boston, Mass., has published in attractive leaflet form the American Gas Association report on Gas Heating and Smoke Abatement, by Floyd W. Parsons, of New York, N. Y.

Associations Affiliated with A. G. A.

Canadian Gas Association
Pres.—Frank Elcock, Ottawa Gas Co., Ottawa, Ont.
Sec.-Tr.—G. W. Allen, 7 Astley Avenue, Toronto.
Conv., 1930.

Colorado Utilities Association
Pres.—H. S. Robertson, Denver Tramway Corp., Denver, Colo.
Sec.-Tr.—O. A. Weller, Public Service Co. of Colo., Denver, Colo.
Conv., Sept. 2, 3 & 4, 1929. Hotel Colorado, Glenwood Springs, Colo.

Empire State Gas and Electric Association
Pres.—Chas. S. Ruffner, Mohawk Hudson Power Corp., Albany, N. Y.
Chairman Gas Section—R. Van Vliet, New York & Richmond Gas Co., Staten Island, N. Y.
Sec.—C. H. B. Chapin, Grand Central Terminal, New York, N. Y.
Conv., Sept. 19 & 20, 1929, Saranac Inn, N. Y.

Illinois Gas Association
Pres.—E. E. Lungren, Western United Gas & Electric Co., Aurora, Ill.
Sec.-Tr.—George Schwaner, 305 Illinois Mine Workers Bldg., Springfield, Ill.
Conv., 1930.

Indiana Gas Association
Pres.—C. L. Kirk, Citizens Gas Co., Indianapolis, Ind.
Sec.-Tr.—F. W. Budd, Central Indiana Gas Co., Muncie, Ind.
Conv., 1930.

Michigan Gas Association
Pres.—F. A. Newton, Consumers Power Co., Jackson, Mich.
Sec.-Tr.—A. G. Schroeder, Grand Rapids Gas Light Co., Grand Rapids, Mich.
Conv., July 1 to 3, 1929, Mackinac Island, Mich.

Mid-West Gas Association
Pres.—E. H. Vieregg, Central Power Co., Grand Island, Nebr.
Sec.-Tr.—Roy B. Searing, Sioux City Gas & Electric Co., Sioux City, Iowa.
Conv., Waterloo, Iowa, Apr. 14-16, 1930.

Missouri Association of Public Utilities
Pres.—T. J. Strickler, Kansas City Gas Co., Kansas City, Mo.
Sec.-Tr.—F. D. Beardslee, 315 N. 12th St., St. Louis, Mo.
Conv., 1930.

New England Gas Association
Pres.—J. J. Quinn, Boston Consolidated Gas Co., Quincy, Mass.
Exec. Sec.—C. D. Williams, 41 Mount Vernon St., Boston, Mass.
Chairman Operating Div.—Isaac T. Haddock, Cambridge Gas Light Co., Cambridge, Mass.
Secretary Operating Div.—H. G. Taylor, Lawrence Gas & Electric Co., Lawrence, Mass.
Chairman Sales Div.—J. H. Sumner, Cambridge Gas Light Co., Cambridge, Mass.
Sec.-Tr. Sales Div.—A. M. Slattery, Hoffman Heater Co., Boston, Mass.
Chairman Industrial Div.—L. B. Crossman, Boston Consolidated Gas Co., Boston, Mass.
Sec.-Tr. Industrial Div.—Chas. H. O'Donnell, Boston Consolidated Gas Co., Boston, Mass.
Chairman Acctg. Div.—R. D. Washburn, Massachusetts Lighting Co., Boston, Mass.
Sec.-Treas. Acctg. Div.—Otto Price, Boston Consolidated Gas Co., Boston, Mass.
Chairman Manufacturer Div.—T. H. Piser, Welsbach Co., Boston, Mass.
Sec.-Treas. Manufacturers Div.—J. H. McPherson, 250 Stuart St., Boston, Mass.
Conv., 1930.

New Jersey Gas Association
Pres.—R. A. Koelher, Public Service Electric & Gas Co., Newark, N. J.
Sec.-Tr.—H. E. Cliff, Public Service Electric & Gas Co., Newark, N. J.
Conv., 1930.

Ohio Gas and Oil Men's Association
Pres.—L. K. Langdon, Union Gas & Electric Co., Cincinnati, Ohio.
Sec.-Tr.—Wm. H. Thompson, 811 First National Bank Bldg., Columbus, Ohio.
Conv., 1930.

Oklahoma Utilities Association
Pres.—T. R. Weymouth, Oklahoma Natural Gas Corp., Tulsa, Okla.
Mgr.—E. F. McKay, 1020 Petroleum Bldg., Oklahoma City, Okla.
Conv., 1930.

Pacific Coast Gas Association
Pres.—C. H. Dickey, Hotel Fairmont, San Francisco, Calif.
Exec. Sec.—Clifford Johnstone, 447 Sutter St., San Francisco, Calif.
Conv., Sept. 10-13, 1929, at Del Monte, Calif.

Pennsylvania Gas Association
Pres.—W. A. Norris, Lebanon Valley Gas Co., Lebanon, Pa.
Sec.-Tr.—Geo. L. Cullen, Harrisburg Gas Co., Harrisburg, Pa.
Conv., 1930.

Pennsylvania Natural Gas Men's Association
Pres.—George W. Ratcliffe, Columbia Gas & Electric Corp., Pittsburgh, Pa.
Sec.-Tr.—B. H. Smyers, Jr., The Philadelphia Co., Pittsburgh, Pa.
Conv., 1929.

Southern Gas Association
Pres.—D. H. Levan, Savannah Gas Co., Savannah, Ga.
Sec.-Tr.—J. P. Connolly, 141 Meeting St., Charleston, S. C.
Conv., 1930.

Southwestern Public Service Association
Pres.—Knox Lee, Southwestern Gas & Electric Co., Marshall, Texas.
Chairman Gas Section—R. A. McNees, San Antonio Public Service Co., San Antonio, Texas.
Sec.—E. N. Willis, 403 Slaughter Bldg., Dallas, Texas.
No Convention, 1929.

The Public Utilities Association of Virginia
Pres.—A. W. Higgins, Virginia Public Service Co., Charlottesville, Va.
Sec.—A. B. Tunis, 301 East Grace St., Richmond, Va.
Conv., Nov. 21 & 22, 1929, Chamberlin-Vanderbilt Hotel, Old Point Comfort, Va.

Wisconsin Utilities Association
Pres.—G. W. Van Derzee, The Milwaukee Electric Railway & Light Co., Milwaukee, Wis.
Exec. Sec.—J. N. Cadby, 105 Wells St., Milwaukee, Wis.
Meetings of Sections.

Eleventh Annual Convention of the American Gas Association
Atlantic City, N. J. October 14-18, 1929

Employment Bureau
(Address All Communications to Key Number)

SERVICES REQUIRED

WANTED: Gas fired boiler, house heating sales engineer in New England territory. Position offers unequaled opportunity to the right man. Replies held in strictest confidence.
Key No. 0139.

LARGE EASTERN UTILITY wants Sales Engineer (Mechanical or Chemical preferred), 27 to 32 years of age, to sell manufactured gas for heating processes. Knowledge of combustion, furnace design and construction, and modern industrial heating practices desirable. Address A. G. A.
Key No. 0141.

GAS SALES ENGINEER—Utility Company operating in Connecticut requires services of gas sales engineer with experience in application of gas to industrial processes. State age, experience and salary desired. Address A. G. A.
Key No. 0142.

METER SHOP FOREMAN. Company with 150,000 meters, located in Pennsylvania, has an opening in its meter shop for a capable foreman experienced in the repair and maintenance of tin and iron meters. Must be able to handle men and have ability to maintain an efficient organization. In reply, please state fully your age, experience, married or single, salary expected, and how soon available. Address A. G. A.
Key No. 0143.

THREE (3) CAPABLE NATURAL GAS HOUSE HEATING SALESMEN—men with a successful record in selling residence furnace conversion units. Fine opportunity for experienced men, possessing real sales ability. Location Southern city of 200,000 population where natural gas has recently been introduced. Salary and commission. In first letter give complete sales record, age and references. Addrss A. G. A.
Key No. 0144.

HOUSE HEATING SALESMAN—Large Eastern utility has vacancy for a man between 30 and 45 years of age for sales work in the use of gas for house heating. Must be a Technical High School graduate and have at least two years' experience in residence heating. Permanent position. Please state age, experience, education and salary desired. Address A. G. A.
Key No. 0145.

GAS ENGINEERS wanted by public utility in Central Hudson Valley. Ages between 23 and 35 years. One graduate Civil Engineer, one Mechanical Engineer and one Chemical Engineer. Experience desired in construction, operation and maintenance of water gas plants, steel transmission and distribution lines, including services. In replying give age, education, experience and salary desired; also send small kodak picture. Address A. G. A.
Key No. 0146.

GAS ENGINEER: Gas apparatus manufacturing company desires services of technical man; about 30 to 35 years; must be good water gas operator and be able to start up new equipment. Give experience and salary desired. Address A. G. A.
Key No. 0147.

SERVICES OFFERED

EXPERIENCED CONSTRUCTION ENGINEER and designer with a good technical background and structural steel experience desires to locate in New York or vicinity. Address A. G. A.
Key No. 278.

AVAILABLE—A man who is employed at present as an Engineer at one of the properties of a large holding company. During his ten years in the business he has been cadet engineer, plant foreman and superintendent's assistant in large plants and manager of a small property. Thorough knowledge of water gas operation, high- and low-pressure distribution, and office routine. Technical graduate, 39 years of age. Address A. G. A.
Key No. 280.

ENGINEER with 7 years' experience in gas and electric utility construction, maintenance, operation and accounting, desires new connection as manager, assistant manager, or superintendent of small utility. New England preferred. Address A. G. A.
Key No. 281.

SALESMAN with wide experience, including sales promotion, desires connection as representative for manufacturer. Acquainted with gas companies and dealers in territory from Boston to Washington. Proposition on agency basis for Eastern territory or Pacific Coast also considered. Address A. G. A.
Key No. 282.

GAS DISTRIBUTION ENGINEER. Also fully acquainted with manufacture and utilization. Understands the necessary methods of handling the public and municipal officials. Ready to serve at once. Will go anywhere, if position is permanent. References will be given by district or city or other local and managing companies. Address A. G. A.
Key No. 284.

GAS ENGINEER, college education, with twelve years' experience, first four with Coal Gas & Electric Co., last eight years as manager of small Water Gas Co., desires position as manager or assistant manager of a gas or combination company. Address A. G. A.
Key No. 285.

ADVERTISING MAN of wide experience, now employed by large public utility, available for position as director of publicity either in same field of work or with manufacturer. Capable of organizing and directing an advertising department, or handling the job unassisted. Age, 35; married; Protestant. Willing to locate anywhere. Ready to entertain further negotiations. Address A. G. A.
Key No. 287.

MANAGER OR GAS DISTRIBUTION SUPT. Man with over 20 years' experience in one company desires position as manager of small property or distribution superintendent. Am experienced in water gas, high and low pressure, and can furnish the best of references from former employers, municipal authorities, etc. Age 43. Address A. G. A.
Key No. 288.

GAS ENGINEER, 45, experienced. Coal and Water Gas Sets, as manager for fair sized plant. Good executive. Address A. G. A.
Key No. 290.

YOUNG LADY with twelve years' experience in coke oven and gas business, desires secretarial position, New York City preferred. Address A. G. A.
Key No. 291.

ADVERTISING MAN, experienced in trade paper, newspaper, direct mail and other forms of advertising, available June 1. Now employed as advertising manager by large public utility. Capable of organizing and directing an advertising department or handling the work unassisted. Age 30, married. Protestant. No objection to location. Address A. G. A.
Key No. 292.

AVAILABLE, a man who has been employed through a continuous period of years in nearly all branches of the gas business. General office to superintendent of manufacture and distribution, including both coal and water gas. Would like to make a similar connection or one of general supervision. Address A. G. A.
Key No. 293

POSITION WANTED—Technical man now employed desires new location. Eight years' experience in distribution and transmission of natural and manufactured gas. Am able to organize and direct large crews. Also experienced in leakage surveys and appraisal work. Address A. G. A.
Key No. 294.

TECHNICAL GRADUATE, twenty years' experience in manufacture of water gas. Age 45, married. Open for position as manager or superintendent. Address A. G. A.
Key No. 295.

WANTED—Position as assistant to engineer of distribution by young man with four and one-half years' experience in Distribution Department of large corporation. 22 years old. Single. Willing to travel. Good references. Address A. G. A.
Key No. 296.

TECHNICAL MAN—Due to merging companies, looking for a position as manager or supt. of small company or in operating department, 15 years' plant work, 2 years in engineering and operating departments; age 41. Address A. G. A.
Key No. 297.

CERTIFIED Public Accountant (N. Y.) five years' gas and electric rate case and accounting experience, university graduate, age 30, immediately available. Address A. G. A.
Key No. 298.

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